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MODERATING ROLE OF JOB TASK PERFORMANCE – ORIENTED ADAPTABILITY ON THE RELATIONSHIP BETWEEN TECHNOLOGY LEADERSHIP PREPAREDNESS AND LEADERSHIP EFFECTIVENESS: A CONVERGENT DESIGN

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ABSTRACT: This study employed mixed methods research specifically convergent design to determine the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness. The data were gathered from the public secondary school teachers in Region XI, Philippines. Sets of validated adapted survey tool with a five – point Likert scale and interview guide were used to gather data. The statistical tools used to treat the quantitative data were mean, standard deviation, and moderation analysis, while in the qualitative phase, thematic analysis was employed. In the quantitative phase, results showed that the level of technology leadership preparedness and leadership effectiveness of school heads were rated very high while their level of job task performance – oriented adaptability was rated high. Further, job task performance – oriented adaptability moderated the relationship between technology leadership preparedness and leadership effectiveness. In terms of lived experiences of participants as regards leadership effectiveness, three themes had emerged which included attributes of effective and efficient school head, technology skills acquisition and adaptability, and roles and accountability of the school head. In terms of beliefs, attitudes, and commitment as shaped by their

experiences, three themes had emerged such as leadership skills and competencies, possession of a wholesome personality of a leader, and delivery of quality education. Finally, the nature of data integration revealed merging – converging.

Keywords: *Education, technology leadership preparedness, job task performance, oriented adaptability, leadership effectiveness, convergent, Philippines*

INTRODUCTION

Background of the Study

Effective leadership is essential to the success of a school organization. However, leadership effectiveness particularly among the school heads is threatened by the challenges brought about by the changing landscape in education, various roles, job expectations, and heavy workload (Lunenburg, 2010; Pont et al., 2008; Tobin, 2014). If school heads are not able to cope with these challenges, their leadership may not be effective and could bring negative impact to the school organization. Ineffective leaders, particularly at the top level of management, can be costly to the organization and, in many cases may lead to its failure (Dalluay & Jalagat, 2016; Pienaar, 2011).

As mentioned by Wise (2015), the tasks of the school heads are rapidly changing and increasing compared to the changes that are happening in the schools. Moreover, the results of the Organization for Economic Co – operation Development Teaching and Learning International Survey (2018) revealed that the school heads spent 16 percent of their time on curriculum and teaching – related tasks which include but not limited to developing school curriculum, mentoring, observing classes, and organizing professional development programs, among others; 30 percent of their time is spent on administrative tasks and meetings; 21 percent of their time is spent on leadership tasks; and 10 percent of their time on interactions with parents and guardians.

In addition, the school heads are confronted with the rising demand to improve teaching and learning amid several societal and global challenges. Also, the study of Harvey (2013) among numerous American school districts revealed that school heads are expected to perform several functions such as: determining a vision towards students' academic success, establishing a climate that is welcoming for education to

happen, allowing others to develop their leadership capacity, and fostering school improvement through managing the school's resources.

In the context of the schools in Abu Dhabi, a new school model conceptualized a new set of roles and responsibilities for principals, which include developing strategic plans and policies geared towards continuous improvement, stressing the importance of communication among internal and external stakeholders, employing new technologies in teaching, initiating change processes, and advocating creativity and innovation (Stringer & Hourani, 2016).

Also, the study of Skinner (2003) revealed that among principals in Manitoba, Canada, their management roles had been expanded to cover additional accountability of providing a safe and secure environment for the students. Moreover, the principals must respond to diverse learners with varied cultural background, economic status, and needs (Leithwood, et al., 2004). Further, the volume of daily interpersonal communication makes principals' tasks more complex (Lunenburg, 2010). Recently, the leadership effectiveness of principals is much more challenged with the eruption of COVID – 19 pandemic that shifted their role to more of an educational technology leader (Hargreaves & Fullan, 2020).

In the Philippines, the leadership effectiveness of the school heads had been challenged by several national reforms in education. The implementation of the K to 12 Curriculum, the Philippine Professional Standards for Teachers (PPST), globalization, ASEAN integration, and characters of 21st century learners are among the challenges that may threaten the leadership effectiveness of school heads. In addition, the adoption and implementation of the Philippine Professional Standards for School Heads (PPSSH) emphasize the multi-faceted functions of a school head (Department of Education, 2020).

Moreover, the Institute Society for Technology and Education (ISTE) published the standards for education leaders on technology leadership to provide administrators with guidance on how to enhance learning, create technology-rich learning environments, and lead the change of the educational landscape. Today, technological trends in education continues to dominate, thus, requiring school heads

to be leaders of technology who advocate and initiate information technologies and practices. These standards were focused on the role of leadership in using technology to improve learning and school operations and served as indicators of effective leadership for technology in schools (TSSA, 2001).

School heads are expected to be the promoters of change and must model technology uses and practices (Morrison, 2006). Likewise, Courville (2011) believed that school heads must act as educational technology leaders who can integrate technology effectively in the school system, especially in the teaching and learning process.

Further, as the school heads are facing a variety of roles and challenges besetting the schools, it is imperative for them to initiate or respond to the changes (Baard et al., 2014). Moreover, the ability, skills, disposition, and willingness of the school heads to adjust or adapt to various jobs, social, and environmental factors are essential ingredients for dynamic capability (Ployhart & Blaise, 2006; Baard et al., 2014). In addition, studies have shown that adaptability boosts a person's ability to solve new problems while enhancing resilience, resourcefulness, and problem-solving skills (Burnell, 2019). This means that an adaptable school head can solve issues imaginatively, navigate difficulties, and adjust to unexpected and changing demands. Further, Fowler (2013) believed that adaptable school heads allow members to practice their leadership.

Despite the attention of researchers on exploring leadership effectiveness, the research conducted had only been focused on the relationship of leadership effectiveness and certain traits which are considered as few of the possible factors that could influence leadership effectiveness (Veal & Ticehurst, 2005). Some of these studies investigated the influence of personality traits, character strengths, emotional intelligence, leadership style, commitment, performance, and satisfaction to leadership effectiveness (O'Neil, 2007; Dayle, 2002; Weinberger, 2009; Avolio, 2007; Wilhelmson, 2006; Rhodes et al., 2008). There were some researches on the relationship of leadership effectiveness and students' academic achievement like the study of Tatlah et al. (2004), Yesuf (2016), and Feyisa et al., (2016). Less investigation had been done to describe leadership effectiveness, especially that of school heads, based on technology leadership preparedness. Also, the moderating

role of job task performance – oriented adaptability on the relationship of these two variables was minimally explored.

Added on, most studies involving the variables previously mentioned had school heads as the respondents while this study considered the teachers as respondents. Also, other studies were purely focused on either quantitative method or qualitative method only. This study, however, utilized mixed methods which involved collecting, analyzing, and integrating both the quantitative and qualitative methods. The mixed methods research presented a broader view of the study than either research approach alone. Also, most studies conducted involved individual relationship between variables. Whereas this study explored on the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness. In addition, the extensive review of related literature revealed insufficient research on these variables especially in Region XI. Though there were trainings conducted for school heads, however, these efforts seemed insufficient for this abrupt change in the landscape of education.

With these conditions, the researcher had seen the urgency to address the gap and was interested in studying the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness of school heads. The findings of this study could be an added literature to the body of knowledge on this field of interest. In addition, studying the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness may be of considerable help not just to school heads but to all education leaders especially that the education sector has been largely affected by the global health crisis that shifted the delivery of education to technology – driven learning modalities which call for school heads to navigate through the changes.

Further, the results of this study may serve as good feedback for school heads as regards their technology leadership preparedness and job task performance - oriented adaptability. This may shed light to school heads as to the importance of technology leadership preparedness and job task performance – oriented adaptability as

contributors to leadership effectiveness. Moreover, the results of this study may form part of the basis for policy recommendation and crafting of appropriate, need – based, and research – based professional leadership programs for school heads more specifically in the Department of Education (DepEd). Furthermore, this study may serve as reference for other research endeavors in the field of educational leadership.

Moreover, the results of this study will be disseminated in the school learning action cells (LAC) sessions, seminars and training programs of the schools division offices of the DepEd - Region XI. Also, the results of this study will be presented through local, national, and international research conferences or fora. In addition, an online publication of this study will also be considered by the researcher for easy access and wide dissemination of the research work.

Worldview and Theoretical Lens

The researcher personally believed that the leadership effectiveness of school heads during these challenging times requires technology leadership preparedness and job task performance - oriented adaptability to be able to cope up with the changing landscape in education, various roles, job expectations and heavy workload. In particular, the school heads will be more effective if they are technologically prepared and adaptable to changes brought about by COVID – 19 pandemic. Further, the researcher personally believed that job task performance – oriented adaptability can be a moderator on the relationship between technology leadership preparedness and leadership effectiveness.

As a pragmatist, the researcher was able to integrate more than one research approaches for collecting and analyzing data within the same study, specifically, using both quantitative and qualitative methods. Also, as a pragmatist, the researcher was able to go deeper into the dataset to be able to comprehend its meaning and utilized one method to confirm the findings of the other method.

Pragmatism began as a philosophical movement in the United States in the late 1800s (Maxcy, 2003). As a research paradigm, it is based on the idea that researchers should utilize the philosophical and methodological approach that works best for the specific research challenge at hand. As an approach to inquiry, it is based on three

methodological principles: emphasis on actionable knowledge; recognition of the interdependence of action, experience, and knowledge; and inquiry as a method of experiential process (Kelly & Cordeiro, 2020).

Also, this study was anchored on the Adaptive Leadership Theory (Heifetz, 1994). This theory explains the act of mobilizing a group of individuals to successfully handle tough challenges. As described by Heifetz (2009), adaptive leadership theory focuses on the role of the leader to mobilize his followers to confront challenges and be able to thrive. Similarly, Northouse (2015) emphasized that adaptive leadership is about how leaders influence people to adapt and be able to face challenges, changes, and problems.

In addition, this leadership theory gives emphasis on the activities of the leaders in relation to the work of the followers in the contexts that they are in. Flexible and adaptive leadership entails adapting behavior in response to changing circumstances. There were several descriptions to describe leaders who can detect situations and are able to adjust their behavior appropriately, and these terms include flexible, adaptable, versatile, and agile (Kaiser et al., 2007; Pulakos et al., 2000). Hence, this theory highlights how school heads helped the teachers and other school personnel accomplished tasks as a way of adjusting to the challenges. This theory also explains the altering behavior of the school heads due to the changes in the situations. Further, this theory describes the ability of the school heads to adjust their thoughts and behaviors to create responses based on the challenges and changes.

In addition, this study was anchored on Situational Leadership Theory or Situational Approach by Hersey and Blanchard (1969). This theory describes leadership as consisting of both a directive and a supportive dimension that can be applied appropriately to specific situations. Based on this theory, the leader must evaluate the followers and assess them based on competence and commitment to achieve the organizational goals. Its focus is on leadership in situations and is anchored on the premise that different situations demand different leadership styles.

The situational approach explains the idea that school heads tailored their leadership style to the competence and commitment of the teachers. The theory further explains

that effective school heads who identified the needs of the teachers can adapt their own approach to suit those demands. Moreover, this theory allows school heads to adapt to the situations and new experiences as school heads (Francisco et al., 2020).

Moreover, this study was also anchored on the Skills Approach Leadership Theory by Katz (1955). This theory was based on the idea that leadership requires certain abilities, knowledge, and skills that can be learned or improved. The skills approach implies that knowledge and abilities were essential for effective leadership (Northouse, 2015). As reported, there are three basic skills for effective leadership: technical, human, and conceptual. He described skills as what the leaders can accomplish while traits are the innate characteristics. He further described technical skills as the knowledge and proficiency in a specific type of work or activity. On the other hand, the human skill is associated with the ability to work with people. The human skills, also referred to as the people skills, allow leaders to assist the members of his group to work cooperatively in order to achieve the goals of the organization. Meanwhile, the conceptual skills are the abilities to work with concept or ideas. Conceptual skills allow leaders to create a vision and strategic plan for an organization. Hence, this theory explains that school heads must possess necessary skills to perform their job. The skills required for principals in terms of planning, organizing, leading, and monitoring are can all be explained by the three basic skills of effective leadership (Lunenburg, 2010).

Theoretical Framework

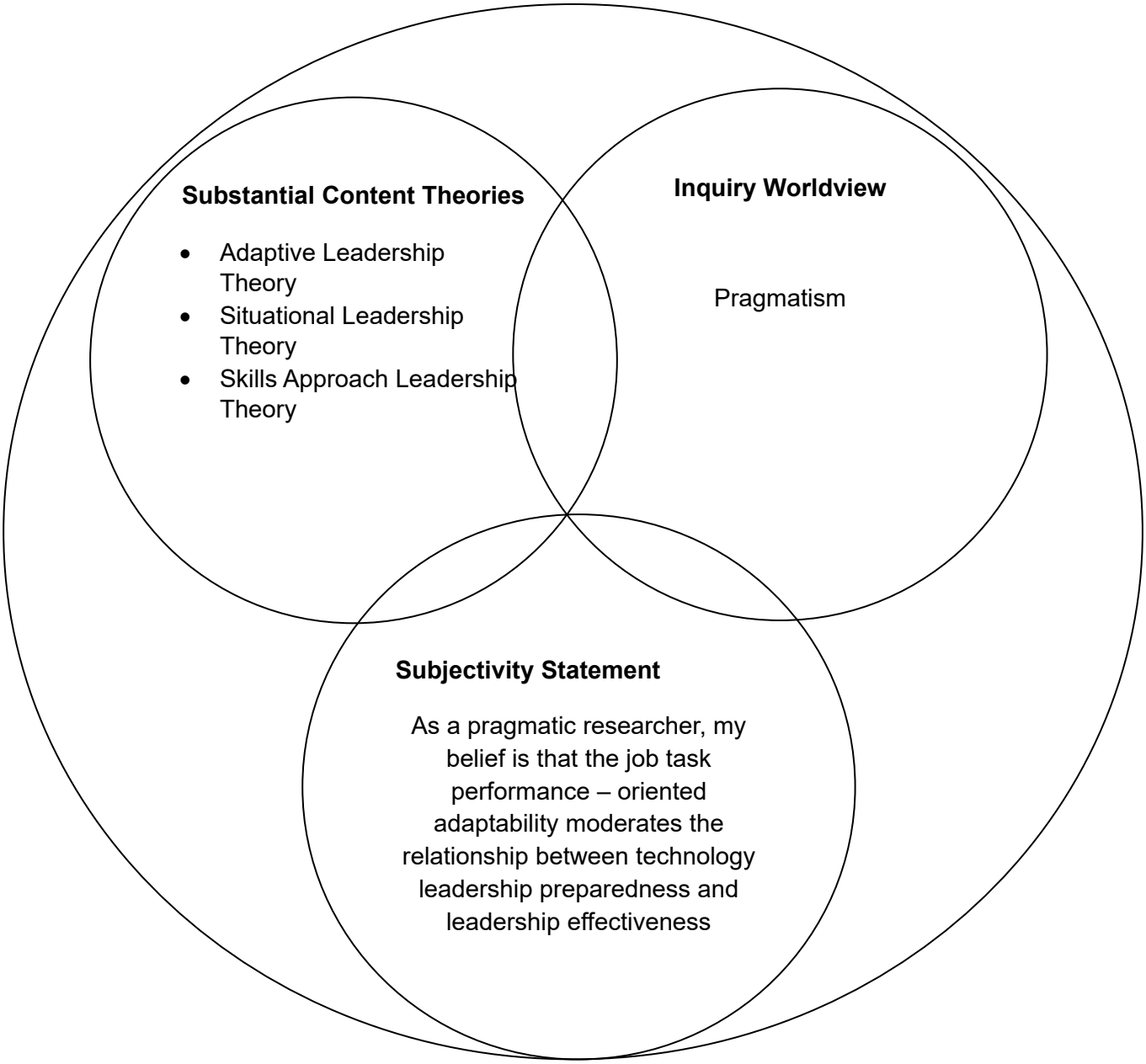

Substantial Content Theories
Adaptive Leadership Theory
Situational Leadership Theory
Skills Approach Leadership Theory
Inquiry Worldview
Pragmatism
Subjectivity Statement
As a pragmatic researcher, my belief is that the job task performance – oriented adaptability moderates the relationship between technology leadership preparedness and leadership effectiveness

Figure 1. Theoretical Framework

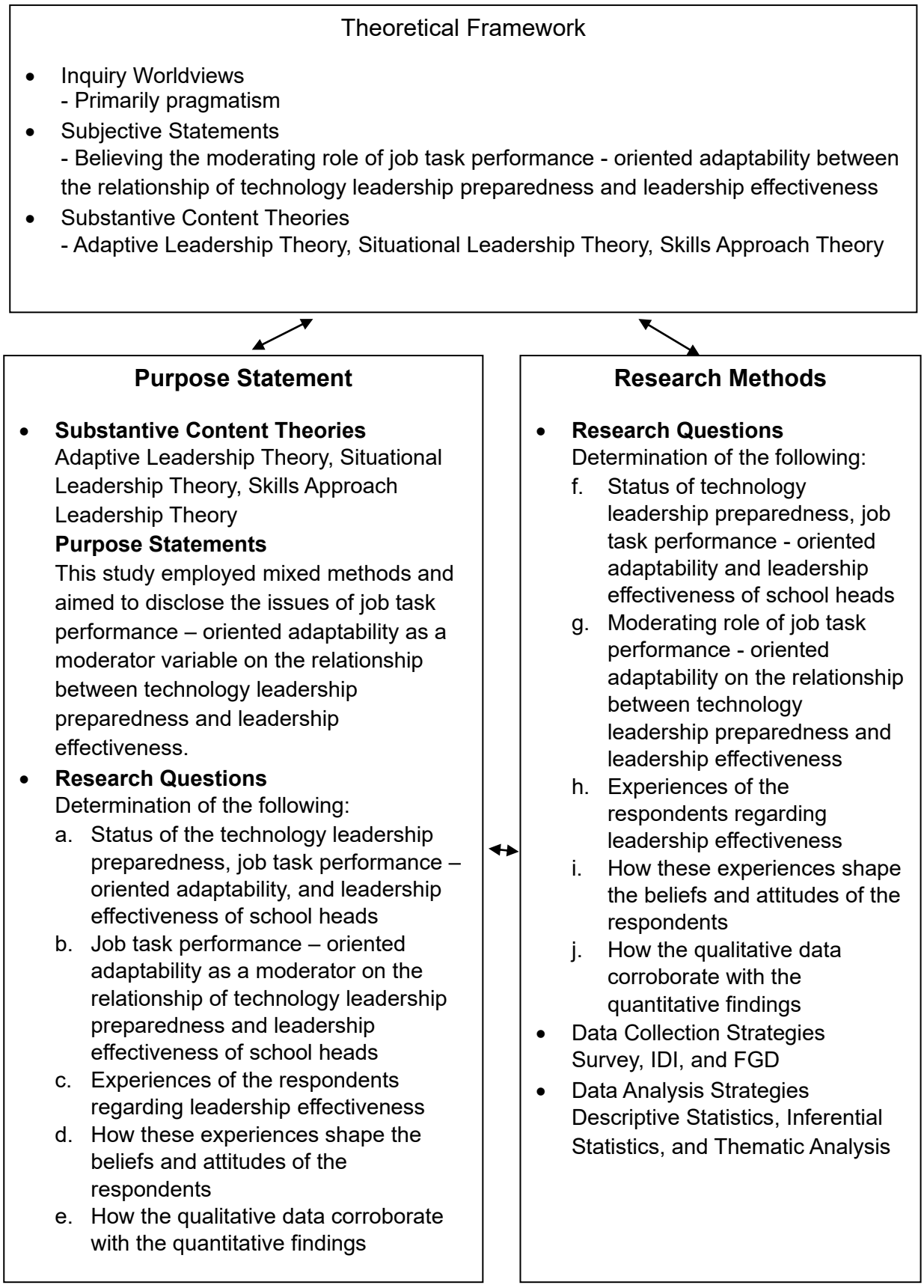

Theoretical Framework
• Inquiry Worldviews
- Primarily pragmatism
• Subjective Statements
- Believing the moderating role of job task performance - oriented adaptability between the relationship of technology leadership preparedness and leadership effectiveness
• Substantive Content Theories
- Adaptive Leadership Theory, Situational Leadership Theory, Skills Approach Theory
Purpose Statement
• Substantive Content Theories
Adaptive Leadership Theory, Situational Leadership Theory, Skills Approach Leadership Theory
Purpose Statements
This study employed mixed methods and aimed to disclose the issues of job task performance – oriented adaptability as a moderator variable on the relationship between technology leadership preparedness and leadership effectiveness.
• Research Questions
Determination of the following:
a. Status of the technology leadership preparedness, job task performance – oriented adaptability, and leadership effectiveness of school heads
b. Job task performance – oriented adaptability as a moderator on the relationship of technology leadership preparedness and leadership effectiveness of school heads
c. Experiences of the respondents regarding leadership effectiveness
d. How these experiences shape the beliefs and attitudes of the respondents
e. How the qualitative data corroborate with the quantitative findings
Research Methods
• Research Questions
Determination of the following:
f. Status of technology leadership preparedness, job task performance - oriented adaptability and leadership effectiveness of school heads
g. Moderating role of job task performance - oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness
h. Experiences of the respondents regarding leadership effectiveness
i. How these experiences shape the beliefs and attitudes of the respondents
j. How the qualitative data corroborate with the quantitative findings
• Data Collection Strategies
Survey, IDI, and FGD
• Data Analysis Strategies
Descriptive Statistics, Inferential Statistics, and Thematic Analysis

Figure 2. Mixed Methods Research Framework

Research Questions

This study determined the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness among the school heads in DepEd, Region XI. Specifically, it sought answers to the following questions:

1. What are the levels of technology leadership preparedness, job task performance - oriented adaptability, and leadership effectiveness of school heads?
2. Does job task performance - oriented adaptability significantly moderate the relationship between technology leadership preparedness and leadership effectiveness of school heads?
3. What are the lived experiences of participants as regards leadership effectiveness?
4. How do these experiences shape their beliefs and attitude towards leadership effectiveness?
5. How do the qualitative findings corroborate with the quantitative data?

METHODOLOGY

This section presents the description of the research design, respondents, research instruments, data collection, figure of procedures, data analysis, anticipated methodological issues, trustworthiness of the study, and ethical considerations.

Research Design

This study had utilized the mixed methods research specifically the convergent design. Mixed methods research involves a purposeful mixing of methods in collecting data, analyzing data, and in interpreting evidence (Shorten and Smith, 2017). Further, the mixed methods design is used for conducting research that involves collecting, analyzing, and integrating quantitative and qualitative research in a single study or a longitudinal program of inquiry (Creswell, 2008). The purpose of this form of research is that both quantitative and qualitative research, in combination, provide a better understanding of a research problem or issue than either research approach alone (Creswell, 2011). As stressed by Shorten and Smith

(2017), the purposeful integration allows the researcher to have a broader view of the research landscape and see the phenomena from various perspectives through various research lenses. Moreover, this method is used to confirm, cross – validate or corroborate the findings of the study. In this design, the strength of one method is used to overcome by the weakness of the other method (Creswell, 2017).

The convergent design, also known as convergent parallel design, occurs when a researcher employed concurrent timing to apply both the quantitative and qualitative phases of the research at the same time. This design allows the separate and independent collection and analysis of data using the techniques traditionally associated with each type of data, then the results are merged or mixed during the interpretation process (Creswell & Plano – Clark, 2011). The convergent design strengthens the results and reduces the weakness of a single individual method. It enables a deeper and different angle of viewing, listening, and understanding the reality of the situation (Creswell & Clark, 2011).

Further, the quantitative phase employed the descriptive – correlational design. It was used to obtain information pertaining to the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation (Shuttleworth, 2008). In this study, the school heads' leadership effectiveness was determined through the levels of technology leadership preparedness and leadership adaptability.

Furthermore, this technique was used to describe and measure the degree of association or relationship between two or more variables or sets of scores (Creswell, 2002). Correlational research investigates the relationship of the dependent and independent variable (Black, 2002). Additionally, correlational design uses surveys, classification and data reduction techniques, and assessments of relations among variables. Moreover, Kalla (2011) stated that a correlational study determines the relationship of two or more variables, this means finding out if the increase or decrease of a variable can increase or decrease another variable. Further, statistical tools are used in determining the relationship between the variables and in calculating the probability that the relationships will hold true in other settings (Scott & Usher, 2001). In this study, the relationship between technology leadership

preparedness and leadership effectiveness of the school heads was determined as well as the moderating role of job task performance – oriented adaptability in the relationship between technology leadership preparedness leadership effectiveness.

For the qualitative phase, the phenomenological approach was utilized in this study. Phenomenology is one of the basic traditions of qualitative inquiry that examines the lived experiences of humans. The purpose of a phenomenological study is to describe individual experiences with a phenomenon in universal terms or context. To achieve this goal, the researcher had identified a phenomenon to study. The description of the phenomenon provides what the individuals had experienced and how they experienced it (Creswell, 2003).

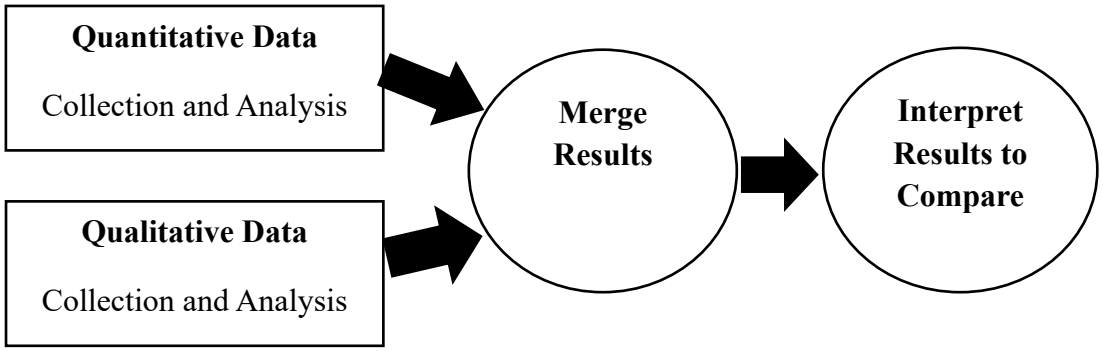


Figure 3. Convergent Design

Respondents and participants

Quantitative Strand

For the quantitative phase, 400 public secondary school teachers in Region XI were the respondents of this study. They were selected using purposive sampling to achieve a homogenous sample, and the sample size was based on the Slovin's Formula. To attain homogeneity, these criteria were set: should be a permanent public secondary school teacher for at least three years. Any respondent who did not meet such criteria was automatically excluded in this study. Also, the respondents were informed that the researcher was granted permission from the Regional Director of the DepEd – Region XI through an endorsement letter to their respective Schools Division Superintendents.

Qualitative Strand

For the qualitative phase, 17 public secondary school teachers from the 11 schools divisions in Region XI were invited to participate in the IDI and FGD. Particularly, ten participants were invited for IDI and seven participants for the FGD. These participants were chosen according to the inclusion and exclusion criteria stated in the quantitative strand but were separate from the 400 respondents in quantitative strand. The results of the IDI and FGD were utilized to explore the emerging themes based on their experiences.

Research Instruments

This study utilized research instruments in gathering the necessary data for quantitative and qualitative approach.

Quantitative Strand

For the quantitative phase, the study used three adapted questionnaires which pertain to technology leadership preparedness, job task performance - oriented adaptability, and leadership effectiveness. It was designed to obtain necessary information from the respondents. Such instrument used the five – point Likert Scale with five as the highest and one as the lowest.

For technology leadership preparedness, the tool used was the 21 – item tool by Metcalf (2012) from the statistically validated assessment entitled Principals' Technology Leadership Assessment (PTLA) which was based on the National Education Standards for Administrators (NETS – A) of the International Society for Technology in Education (ISTE). The 2002 PTLA has a Cronbach's alpha of .95 which indicates high internal consistency. Such tool was used to measure the five dimensions of the technology leadership preparedness of the school principals: visionary leadership, digital age learning culture, excellence in professional practice, systemic improvement, and digital citizenship.

For job task performance - oriented adaptability, the tool used was the 18 – item tool used by Davis (2020) which was developed by Ployhart and Bliese (2006). The computed Cronbach's alpha is 0.92 which indicates high internal consistency. The

tool consists of six indicators, namely: creativity adaptability, cultural adaptability, interpersonal adaptability, learning adaptability, uncertainty adaptability, and work stress adaptability.

Furthermore, the tool for the leadership effectiveness of the school principals was adapted from the Principal Leadership Effectiveness Inventory (PLEI) which was developed by Ibukun et al. (2011). The tool consists of 30 items with indicators: instructional programs, staff personnel administration, student personnel administration, financial and physical resource, and school community relations. The computed Cronbach's alpha is .812 which indicates good internal consistency.

In convergent design, both quantitative and qualitative validity must be established. In the quantitative strand, the validity of the questionnaires was assured. The set of questionnaires were subjected to content and construct validity testing prior to the study's execution. This process was carried out by five validators, two of whom were from outside the institution and the other three from the university's research examining committee. The questionnaire was revised in accordance with the validators' recommendations.

Qualitative Strand

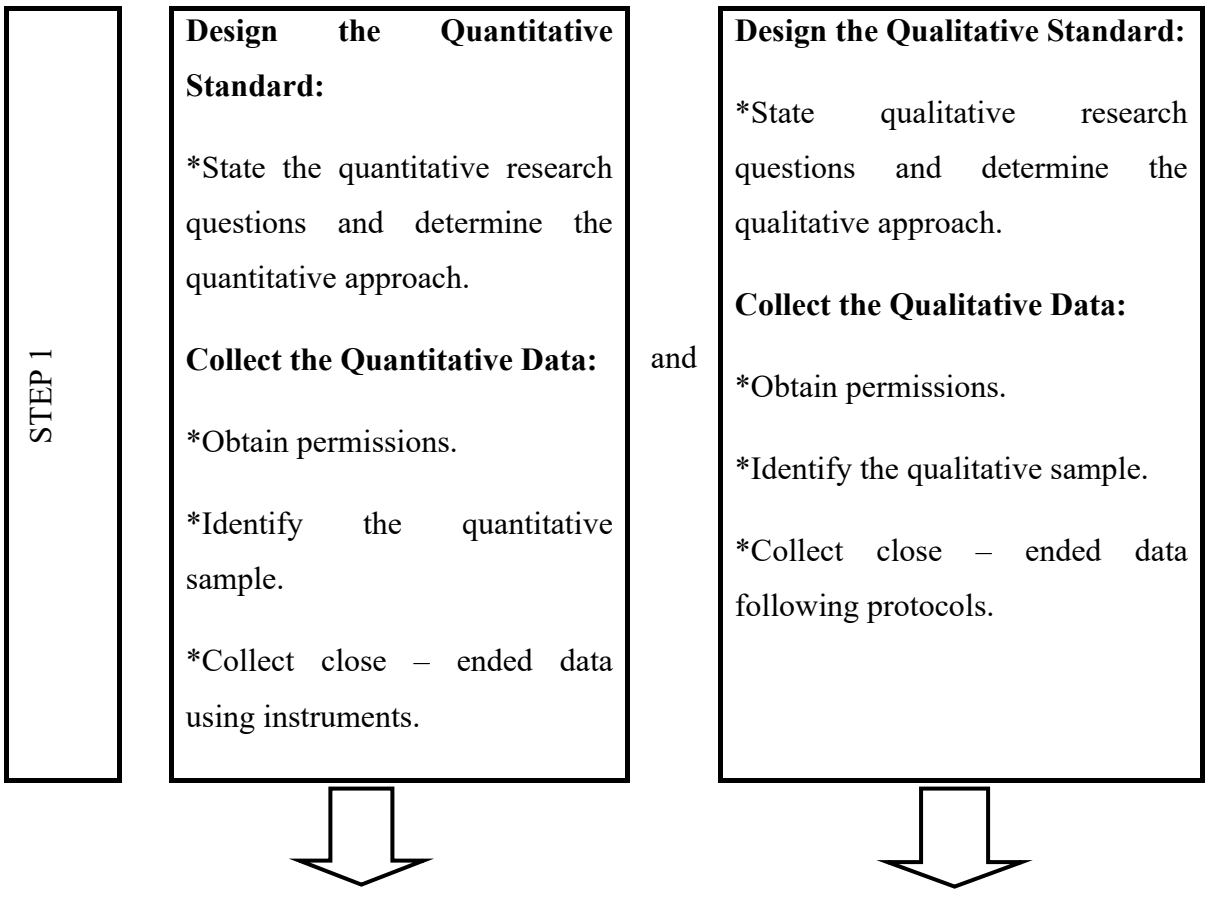
In the qualitative phase, a self – made interview guide consisting of structured questions was utilized by the researcher during the conduct of IDI and FGD. The guide questions were validated by a panel of experts. Revisions were made based on the comments, corrections, and suggestions of the experts. The interview guide was used to gather data from the participants who answered the probing questions. Interviews, whether IDI or FGD, lend themselves to phenomenological studies Creswell (2014).

Figure of Procedures

Figure 5 shows the systematic procedures of the study. It illustrates the use of convergent design, a mixed method design, in which quantitative data and qualitative data were corroborated to determine the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness, which was administered to the participants of the study through purposive sampling.

In convergent design, the quantitative and qualitative data were collected at the same time in one phase. Particularly, the researcher gathered the data through survey questionnaires via online platform, then the participants' responses were automatically consolidated into the google sheet. Moreover, the qualitative phase was conducted simultaneously in selected schools of Region XI.

In the quantitative phase, a validated survey questionnaire was analyzed. The participants' responses were in numeric data and were used to determine the moderating role of job task performance – oriented adaptability on the relationship of technology leadership preparedness and leadership effectiveness of school heads. The results were interpreted and discussed in what ways the two types of data converge, diverge, relate to each other, and or produce a more complete understanding.


STEP 1
Design the Quantitative Standard:
*State the quantitative research questions and determine the quantitative approach.
Collect the Quantitative Data:
*Obtain permissions.
*Identify the quantitative sample.
*Collect close – ended data using instruments.
and
Design the Qualitative Standard:
*State qualitative research questions and determine the qualitative approach.
Collect the Qualitative Data:
*Obtain permissions.
*Identify the qualitative sample.
*Collect close – ended data following protocols.

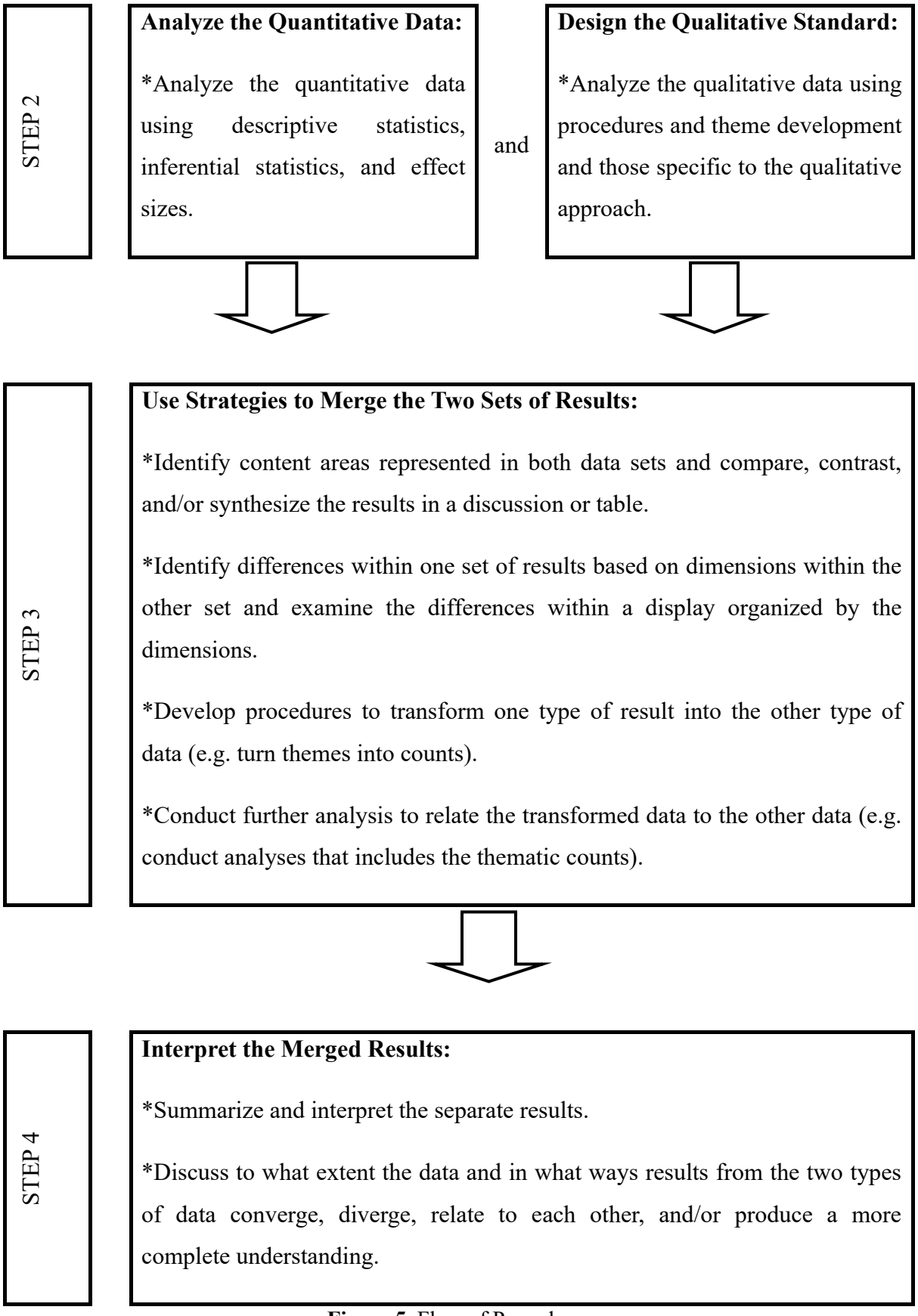

STEP 2
Analyze the Quantitative Data:
*Analyze the quantitative data using descriptive statistics, inferential statistics, and effect sizes.
and
Design the Qualitative Standard:
*Analyze the qualitative data using procedures and theme development and those specific to the qualitative approach.
STEP 3
Use Strategies to Merge the Two Sets of Results:
*Identify content areas represented in both data sets and compare, contrast, and/or synthesize the results in a discussion or table.
*Identify differences within one set of results based on dimensions within the other set and examine the differences within a display organized by the dimensions.
*Develop procedures to transform one type of result into the other type of data (e.g. turn themes into counts).
*Conduct further analysis to relate the transformed data to the other data (e.g. conduct analyses that includes the thematic counts).
STEP 4
Interpret the Merged Results:
*Summarize and interpret the separate results.
*Discuss to what extent the data and in what ways results from the two types of data converge, diverge, relate to each other, and/or produce a more complete understanding.

Figure 5. Flow of Procedures

RESULTS

This chapter presents the results of the study with the quantitative descriptive results of the independent and dependent variables. It also includes the thematic analysis of the lived experiences of public secondary school teachers.

Level of Technology Leadership

Preparedness of School Heads

Shown in Table 1 is the level of technology leadership preparedness of school heads in Region XI, which was measured in terms of visionary leadership, digital age learning culture, excellence in professional practice, systemic improvement, and digital citizenship. Computations yielded an overall mean of 4.43 with a description of very high. This implies that technology leadership preparedness is always evident among school heads in Region XI. More so, the overall standard deviation is .61, indicative of a small range of dispersion. Thus, denoting homogeneity in their perceptions.

Visionary Leadership. This indicator obtained a category mean of 4.44 with a description of very high. The actual mean range is 4.41 to 4.46. The item *facilitating a change that maximizes learning goals using digital resources*, obtained a mean rating of 4.46 with a description of very high. The item *promoting programs and funding to support implementation of technology – infused plans*, obtained a mean rating of 4.41 with a description of very high. This means that visionary leadership is always evident among school heads in Region XI.

Table 1: Level of Technology Leadership Preparedness of School Heads

	Indicators/Items	**Mean**	**SD**	**Description**
A. Visionary Leadership: *Our school head is…*				
1	facilitating a change that maximizes learning goals using digital resources.	4.46	.70	Very High
2	engaging in an ongoing process to develop, implement, and communicate technology – infused	4.45	.69	Very High

	strategic plans.			
3	promoting programs and funding to support implementation of technology – infused plans.	4.41	.74	Very High
	Category Mean	**4.44**	**.65**	**Very High**
B. Digital Age Learning Culture: *Our school head is…*				
1	ensuring instructional innovation focused on continuous improvement of digital learning.	4.46	.69	Very High
2	modeling and promoting the frequent and effective use of technology for learning.	4.42	.74	Very High
3	providing learning environments with technology and learning resources to meet the diverse needs of all learners.	4.40	.73	Very High
4	ensuring effective practice in the study of technology and its infusion across the curriculum.	4.44	.69	Very High
5	promoting and participating in learning communities stimulating innovation, creativity, and digital collaboration.	4.43	.67	Very High
	Category Mean	**4.43**	**.63**	**Very High**

C. Excellence in Professional Practice: *Our school head is…*				
1	Allocating time, resources, and access to ensure ongoing professional growth in technology fluency and integration.	4.45	.70	Very High
2	facilitating and participating in learning communities that stimulate and support faculty in the study and use of technology.	4.43	.70	Very High
3	promoting and modeling effective communication and collaboration among stakeholders using digital – age tools.	4.42	.70	Very High
4	staying up – to – date on educational research and emerging trends of effective use of technology and encourage new technologies for potential to improve student learning.	4.41	.75	Very High
	Category Mean	**4.43**	**.66**	**Very High**
D. Systemic Improvement: *Our school head is…*				
1	leading purposeful change to reach learning goals through the use of technology and media – rich resources.	4.41	.71	Very High
2	collaborating to establish metrics, collects and analyzes data, and share findings and results to improve staff performance and student learning.	4.36	.71	Very High
3	recruiting highly competent personnel who use technology to advance academic and operation	4.44	.71	Very High

	goals.			
4	establishing and leveraging strategic partnerships to support systemic improvement.	4.41	.72	Very High
5	establishing and maintaining a robust infrastructure for technology to support management, operations, teaching, and learning.	4.41	.72	Very High
	Category Mean	**4.41**	**.65**	**Very High**
E. Digital Citizenship				
1	Ensuring access to appropriate digital tools and resources to meet the needs of all learners.	4.43	.72	Very High
2	Promoting, modeling, and establishing policies for safe, legal, and ethical use of digital information and technology.	4.43	.70	Very High
3	Promoting and modeling responsible social interactions related to the use of technology and information.	4.46	.66	Very High
4	Modeling and facilitating the development of a shared cultural understanding and involvement of global issues through communication and collaboration tools.	4.41	.70	Very High
	Category Mean	4.43	.65	Very High
	Overall Mean	**4.43**	**.61**	**Very High**

Digital Age Learning Culture. This indicator yielded a category mean of 4.43 with a description of very high. The actual mean range is 4.40 to 4.46. Additionally, the item, *ensuring instructional innovation focused on continuous improvement of digital learning*, got a mean rating of 4.46 with a description of very high. Meanwhile, the item, *providing learning environments with technology and learning resources to meet the diverse needs of all learners*, got a mean rating of 4.40 with a description of very high. This means that digital age learning culture is always evident among school heads in Region XI.

Excellence in Professional Practice. This indicator obtained a category mean of 4.43 with a description of very high. The actual mean range is 4.41 to 4.45. The item, *allocating time, resources, and access to ensure ongoing professional growth in technology fluency and integration,* obtained a mean rating of 4.45 with a description of very high. Meanwhile, the item *staying up to date on educational research and emerging trends of effective use of technology and encourage new technologies for potential to improve student learning*, obtained a mean rating of 4.41 with a description of very high. This implies that excellence in professional practice among school heads in Region XI is always evident.

Systemic Improvement. This indicator obtained a category mean of 4.41 with a description of very high. The actual mean range is 4.36 to 4.44. The item, *recruiting highly competent personnel who use technology to advance academic and operation goals,* obtained a mean rating of 4.44 with a description of very high. The item, *collaborating to establish metrics, collecting, and analyzing data, and sharing findings and resulting to improve staff performance and student learning*, obtained a mean rating of 4.36 with a description of very high. This means that systemic improvement is always evident among school heads in Region XI.

Digital Citizenship. This indicator obtained a category mean of 4.43 with a description of very high. The actual mean range is 4.41 to 4.46. The item, *promoting and modeling responsible social interactions related to the use of technology and information*, got a mean rating of 4.46 with a description of very high. While the item, *modeling and facilitating the development of a shared cultural understanding and involvement of global issues through communication and collaboration tools*,

got a mean rating of 4.41 with a description of very high. This means that digital citizenship is always evident among school heads in Region XI.

Level of Job Task Performance – Oriented
Adaptability of School Heads

Table 2 shows the level of job task performance - oriented adaptability of school heads in Region XI. This was measured in terms of creativity adaptability, cultural adaptability, interpersonal adaptability, learning adaptability, uncertainty adaptability, and work stress adaptability. The overall mean is 4.13 with a description of high. This implies that job task performance – oriented adaptability is oftentimes demonstrated by the school heads in Region XI. Additionally, the standard deviation of .57 denotes that the responses of the respondents are more clustered to the mean.

Creativity Adaptability. This indicator obtained a category mean of 4.43 with a description of very high. The actual mean range is 4.41 to 4.46. Specifically, the item, *is an innovative leader*, has a mean rating of 4.46 with a description of very high. While the items, *is able to look at problems from a multitude of angles* and *is good at developing innovative solutions to complex problems*, obtained a mean rating of 4.41. This indicates that creativity adaptability is always demonstrated by the school heads in Region XI.

Cultural Adaptability. For this indicator, computations yielded a category mean of 4.45 with a description of very high. The actual mean range is 4.39 to 4.49. The item, *working well with diverse others*, has a mean rating of 4.49 with a description of very high. In addition, the item, *enjoying learning about cultures other than their own*, obtained a mean rating of 4.39 with a description of very high. This indicates that cultural adaptability is always demonstrated by the school heads of Region XI.

Table 2: Level of Job Task Performance – Oriented Adaptability of School Heads

	Indicators/Items	Mean	SD	Description
A. Creativity Adaptability: *Our school head…*				
1	Is an innovative person.	4.46	.70	Very High
2	Is able to look at problems from a multitude of angles.	4.41	.78	Very High
3	Is good at developing innovative solutions to complex problems.	4.41	.74	Very High
	Category Mean	**4.43**	**.70**	**Very High**
B. Cultural Adaptability: *Our school head is…*				
1	enjoying learning about cultures other than their own.	4.39	.74	Very High
2	working well with diverse others.	4.49	.71	Very High
3	feeling comfortable interacting with others who have different values and customs.	4.47	.73	Very High
	Category Mean	**4.45**	**.67**	**Very High**
C. Interpersonal Adaptability: *Our school head is…*				
1	an open-minded person in dealing with others.	4.48	.73	Very High
2	trying to be flexible in dealing with others.	4.50	.71	Very High
3	adapting their behavior to get along with others.	4.48	.69	Very High
	Category Mean	**4.49**	**.66**	**Very High**
D. Learning Adaptability: *Our school head is…*				
1	enjoying learning new approaches for conducting work.	4.51	.68	Very High

2	learning new methods quickly to solve problems.	4.45	.72	Very High
3	learning new skills continually for his/her job.	4.50	.72	Very High
	Category Mean	**4.48**	**.66**	**Very High**
E. Uncertainty Adaptability: *Our school head is…*				
1	Is able to make effective decisions without all relevant information.	4.09	.97	High
2	becoming frustrated when things are unpredictable.	3.47	1.31	High
3	performing well in uncertain situations.	4.21	.84	Very High
	Category Mean	**3.92**	**.84**	**High**
F. Work Stress Adaptability: *Our school head is*				
1	overreacting to stressful news.	3.13	1.39	Moderate
2	getting easily rattled when his/her schedule is too full.	2.97	1.43	Moderate
3	getting stressed when he/she have a large workload.	3.00	1.44	Moderate
	Category Mean	**3.03**	**1.35**	**Moderate**
	Overall Mean	**4.13**	**.57**	**High**

Interpersonal Adaptability. For this indicator, computations yielded a category mean of 4.49 with a description of very high. The actual mean range is from 4.48 to 4.50. The item, *trying to be flexible in dealing with others*, obtained a mean rating of 4.50 with a very high description. In addition, the items, *is an open-minded person in dealing with others* and *adapting their behavior to get along with others*, obtained a mean rating of 4.48 with a description of very high. This indicates that interpersonal

adaptability is always demonstrated by the school heads in Region XI.

Learning Adaptability. For this indicator, computations yielded a category mean of 4.48 with a very high description. The actual mean range is 4.45 to 4.51. In particular, the item, *enjoying learning new approaches for conducting work*, obtained a mean rating of 4.51 with a description of very high. In addition, the item, *learning new methods quickly to solve problems*, obtained a mean rating of 4.45 with a very high description. This indicates that learning adaptability is always demonstrated by the school heads in Region XI.

Uncertainty Adaptability. For this indicator, computations yielded a category mean of 3.92 with a description of high. This indicates that uncertainty adaptability is oftentimes demonstrated by the school heads in Region XI. The actual mean range is from 3.47 to 4.21. The item, *performing well in uncertain situations*, obtained a mean rating of 4.21 with a description of very high. This indicates that uncertainty adaptability is always demonstrated through performing well in uncertain situations. More so, the item, *becoming frustrated when things are unpredictable*, obtained a mean rating of 3.47 with a description of high. This indicates that uncertainty adaptability is oftentimes demonstrated when they feel frustrated when things are unpredictable.

Work Stress Adaptability. For this indicator, computations yielded a category mean of 3.03 with a description of moderate. The actual mean range is 2.97 to 3.03. The item, *overreacting to stressful news*, obtained a mean rating of 3.13 with a description of moderate. More so, the item, *getting easily rattled when his/her schedule is too full*, obtained a mean rating of 2.97 with a description of moderate. This indicates that work stress adaptability is sometimes demonstrated by the school heads in Region XI.

Level of Leadership Effectiveness of School Heads

Table 3 shows the level of leadership effectiveness of school heads. This was measured in terms of instructional programs, staff personnel administration, student personnel administration, financial and physical resource, and school community relations. Computations yielded an overall mean of 4.40 with a description of very

high. This implies that leadership effectiveness is always manifested among school heads in Region XI. Also, the overall standard deviation is 0.59 which denotes that the responses of the respondents are clustered to the mean.

Instructional Programs. This indicator obtained a category mean of 4.35 which is described as very high. Looking at the individual items, the mean ratings ranged from 4.27 to 4.40. The item, *coordinating the general instructional activities of teachers*, obtained a mean rating of 4.40 which is described as very high. Meanwhile, the item giving *aid to teachers in the selection of textbooks for students*, obtained a mean rating of 4.27 which is described as very high. The results indicate that in terms of instructional programs, leadership effectiveness is always manifested among school heads in Region XI.

Table 3: Level of Leadership Effectiveness of School Heads

	Indicators/Items	**Mean**	**SD**	**Description**
A. Instructional Programs: *Our school head is*				
1	assisting teachers in locating of teaching materials.	4.36	.79	Very High
2	helping teachers to develop new instructional materials.	4.36	.79	Very High
3	giving aid to teachers in the selection of textbooks for students	4.27	.79	Very High
4	coordinating the general instructional activities of teachers.	4.40	.73	Very High
5	coordinating the presentation of social and programs for slow learners.	4.37	.72	Very High
	Category Mean	**4.35**	**.69**	**Very High**

B. Staff Personnel Administration: *Our school head is…*				
1	ensuring that teacher understand their limit to independent action.	4.37	.73	Very High
2	accepting responsibility for the work he/she delegates to staff.	4.40	.75	Very High
3	allowing teachers a measure of authority in doing their duties.	4.44	.65	Very High
4	viewing teachers' attendance to class as very important.	4.57	.67	Very High
5	checking who does his/her work.	4.51	.68	Very High
6	assisting staff on personal problems.	4.24	.82	Very High
7	recruiting staff.	4.20	.83	Very High
	Category Mean	**4.39**	**.61**	**Very High**
C. Student Personnel Administration: *Our school head is…*				
1	helping teachers to monitor students' progress through examinations.	4.40	.72	Very High
2	discussing with students regularly concerning their welfare.	4.33	.80	Very High
3	making himself/herself available for consultation with students.	4.39	.72	Very High
4	ensuring that students who come late are disciplined.	4.25	.82	Very High
5	ensuring the orientation of new students about their	4.47	.71	Very High

	school.			
6	showing concern on school performance in examinations.	4.52	.68	Very High
	Category Mean	**4.39**	**.63**	**Very High**
D. Financial and Physical Resource: *Our school head is…*				
1	evaluating the use of physical resources in his/her school.	4.51	.67	Very High
2	evaluating the use of financial resources in his/her school.	4.47	.71	Very High
3	obtaining revenue from appropriate quarters for his/her school.	4.37	.74	Very High
4	coordinating money spending to avoid unnecessary expenses.	4.40	.76	Very High
5	making budget estimates for his/her school.	4.43	.76	Very High
6	providing immediate replacements to damaged classroom equipment.	4.22	.89	Very High
	Category Mean	**4.40**	**.66**	**Very High**
E. School Community Relations: *Our school head is…*				
1	ensuring good rapport on school community relations.	4.49	.69	Very High
2	planning meetings for good relations.	4.48	.71	Very High
3	observing the values of the society in which his/her school operates.	4.50	.67	Very High

4	listening to advice from members of the society.	4.40	.72	Very High
5	ensuring regular evaluation of school community relations of his/her school.	4.46	.71	Very High
6	involving the community on school projects.	4.54	.66	Very High
	Category Mean	**4.48**	**.62**	**Very High**
	Overall Mean	**4.40**	**.59**	**Very High**

Staff Personnel Administration. This indicator obtained a category mean of 4.39 which is described as very high. Looking at the individual items, the mean ratings ranged from 4.20 to 4.57. The item, *viewing teachers' attendance to class as very important*, obtained a mean rating of 4.57 which is described as very high. Meanwhile, the item *recruiting staff*, obtained a mean rating of 4.27 which is described as very high. The results indicate that in terms of staff personnel administration, leadership effectiveness is always manifested among school heads in Region XI.

Student Personnel Administration. This indicator obtained a category mean of 4.39 which is described as very high. Additionally, the mean ratings of the items ranged from 4.25 to 4.52. The item, *showing concern on school performance in examinations*, obtained a mean rating of 4.52 which is described as very high. Meanwhile, the item *ensuring that students who come late are disciplined*, obtained a mean rating of 4.25 which is described as very high. The results indicate that in terms of student personnel administration, leadership effectiveness is always manifested among school heads in Region XI.

Financial and Physical Resource. This indicator obtained a category mean of 4.40 which is described as very high. Additionally, the mean ratings of the items ranged from 4.22 to 4.51. The item, *evaluating the use of physical resources in his/her school,* obtained a mean rating of 4.51 which is described as very high. Meanwhile, the item *providing immediate replacements to damaged classroom equipment*, obtained a mean rating of 4.22 which is described as very high. The results indicate

that in terms of financial and physical resource, leadership effectiveness is always manifested among school heads in Region XI.

School Community Relations. This indicator obtained a category mean of 4.48 which is described as very high. Additionally, the mean ratings of the items ranged from 4.40 to 4.54. The item, *observing the values of the society in which his/her school operates,* obtained a mean rating of 4.51 which is described as very high. Meanwhile, the item *listening to advice from members of the society*, obtained a mean rating of 4.40 which is described as very high. The results indicate that in terms of school community relations, leadership effectiveness is always manifested among school heads in Region XI.

Moderating Role of Job Task Performance -

Oriented Adaptability

Hierarchical regression analysis was used to test the moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness, as shown in Table 4.1.

In step 1, the independent variable, technology leadership preparedness, was entered into the hierarchical procedure and the results showed that $p < 0.05$ which indicates that technology leadership preparedness is significantly related to leadership effectiveness.

In step 2, the independent variable, technology leadership preparedness and the moderator variable job task performance – oriented adaptability were entered into the hierarchical procedure. Results showed that when regressing technology leadership preparedness ($\beta = .548$, $p < .05$) and the moderating variable job task performance – oriented adaptability ($\beta = .382$, $p < .05$) in step 2, they were found to have significant influence on the dependent variable leadership effectiveness as separate variables.

The step 3 of the regression analysis determined the interaction effect of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness. The interaction effect ($\beta = -.063$, $p < .05$), which is the product of technology leadership preparedness and job

task performance – oriented adaptability, is significant. This suggests that the interaction effect was a contributor to the model variance. Hence, job task performance – oriented adaptability dampens the relationship between technology leadership preparedness and leadership effectiveness.

Table 4.1: Moderating Role of Job Task Performance – Oriented Adaptability on the Relationship Between Technology Leadership Preparedness and Leadership Effectiveness

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	R Square Change
	β	Std. Error	Beta			
Step 1						.676
(Constant)	.875	.123		7.098	.000	
Technology Leadership Preparedness	.797	.028	.823	28.875	.000	
Step 2						.745
(Constant)	.397	.119		3.345	.001	
Technology Leadership Preparedness	.548	.034	.566	16.008	.000	
Job Task Performance – Oriented Adaptability	.382	.037	.367	10.384	.000	
Step 3						.748
(Constant)	-.551	.392		-1.406	.160	

Technology Leadership Preparedness	.776	.096	.082	8.703	.000
Job Task Performance – Oriented Adaptability	.649	.111	.624	5.825	.000
Technology Leadership Preparedness by Job Task Performance – Oriented Adaptability	-.063	.025	-.459	-2.538	.012

The result of the study could be further analyzed through R square change in Table 4.1. The R square change tells how much variance in the dependent variable leadership effectiveness these predictors explained in each step. The R square change of .745 means that an additional variance of 75 percent to the variance of 68 percent in step 1 of the hierarchical regression. This means that 68 percent of the variance in leadership effectiveness of school heads in Region XI is due to their technology leadership preparedness. The interaction term (technology leadership preparedness x job task performance – oriented adaptability) registered .748 contribution to the dependent variable leadership effectiveness.

Main Effects of Technology Leadership Preparedness and Job Task Performance – Oriented Adaptability

Table 4.2 below shows the statistical outputs such as β – values, mean, and standard deviation which are needed to graph the main effects of technology leadership preparedness and job task performance – oriented adaptability and the interaction on leadership effectiveness.

Table 4.2: Statistical Output Necessary to Graph the Main Effects of Technology Leadership Preparedness and Job Task Performance – Oriented and the Interaction on Leadership Effectiveness

Variable	B	Mean	SD
Technology Leadership Preparedness	.776	4.43	.614
Job Task Performance – Oriented Adaptability	.649	4.13	.572
Interaction Term	.063		
Constant	-.551		

A modgraph, presented in Figure 6, was generated to validate the result of the regression as shown in Table 4.1 and Table 4.2. The x - axis of the graph represents the independent variable technology leadership preparedness and the y – axis represents the dependent variable leadership effectiveness. The two parallel lines in the graph depict low job task performance – oriented adaptability and high job task performance – oriented adaptability, respectively. The graph further shows that with technology leadership preparedness, the leadership effectiveness is increasing, and the high job task performance – oriented adaptability is above the low job task performance – oriented adaptability. Hence, this purports that job task performance – oriented adaptability dampens the relationship between technology leadership preparedness and leadership effectiveness.

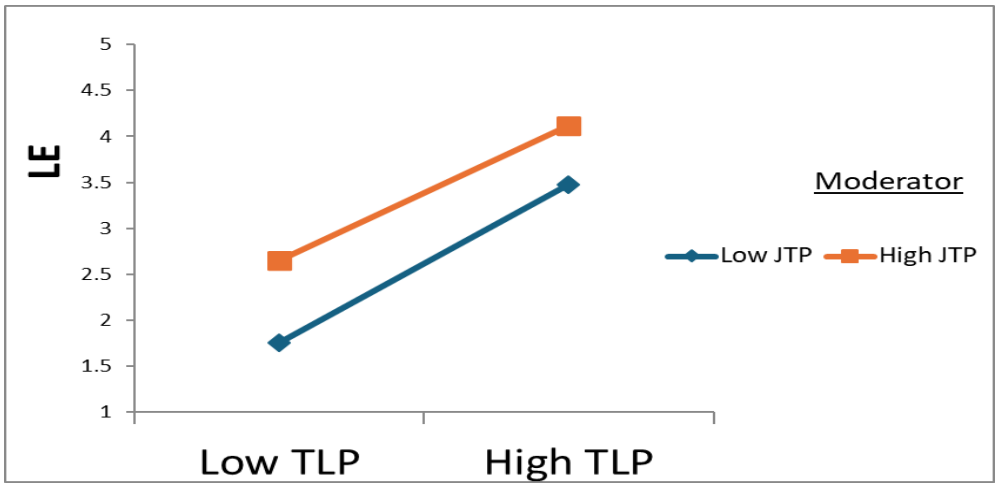


Figure 6. Graphical Depiction of the Moderating Role of Job Task Performance – Oriented Adaptability on the Relationship Between Technology Leadership Preparedness and Leadership Effectiveness

Profile of the Participants

In the qualitative phase of the study, 17 public secondary school teachers in Region XI were purposively selected as participants, 10 participants for the IDI and seven for the FGD. To protect the identity of the participants and the anonymity of the schools involved in this study, the researcher assigned codes for each participant and disclosed certain characteristics only like sex, study group, and address. These are presented in Table 5.1.

Table 5.1: Profile of the Participants

Participant No.	Assigned Code	Sex	Study Group	Address
01	IDI_01	M	IDI	Region XI
02	IDI_02	F	IDI	Region XI
03	IDI_03	M	IDI	Region XI
04	IDI_04	F	IDI	Region XI
05	IDI_05	F	IDI	Region XI
06	IDI_06	F	IDI	Region XI
07	IDI_07	F	IDI	Region XI
08	IDI_08	M	IDI	Region XI
09	IDI_09	M	IDI	Region XI
10	IDI_10	M	IDI	Region XI
11	FGD_01	M	FGD	Region XI
12	FGD_02	M	FGD	Region XI
13	FGD_03	F	FGD	Region XI
14	FGD_04	F	FGD	Region XI

15	FGD_05	M	FGD	Region XI
16	FGD_06	M	FGD	Region XI
17	FGD_07	F	FGD	Region XI

As shown in Table 5.1, there were 17 public secondary school teachers as participants who voluntarily participated in the qualitative part of the study. All participants fitted in the inclusion criteria for informants of the study. As presented in the table, nine participants were male while the other eight were female.

The IDI and FGD were conducted virtually using the platform Zoom to strictly follow the health and safety protocols set by IATF during COVID – 19 pandemic. Furthermore, the participants were asked to give their lived experiences as regards the leadership effectiveness of their school heads. The information or data elicited from the participants were transcribed, coded, grouped, and organized into themes.

The Lived Experiences of Participants Regarding Their School Heads' Leadership Effectiveness

Table 5.2 presents the lived experiences of the participants regarding the leadership effectiveness of their school heads. The essential themes that emerged from the statements of the participants are as follows: *attributes of effective and efficient school head, technology skills acquisition and adaptability, and roles and accountability of the school head.*

Table 5.2: Lived Experiences of Teachers on Leadership Effectiveness of School Heads

Subjects Probed	Core Ideas	Codes	Essential Themes
On description of leadership effectiveness of school head	• Establishing the preparation of the school physically and the protocols • Articulating clearly the direction of the school goals • Demonstrating support in all school programs and activities • Motivating teachers and school staff	Facilitating practices of a functional school head	Attributes of Effective and Efficient School Head

	• Empowering teachers and school staff • Presenting transparent financial report		
	• Promoting culture of respect • Upholding harmonious relationship	Establishing positive school environment	
On technology leadership preparedness of school head	• Assigning technology skilled teachers to monitor school's emails, Facebook Page, Messenger, among others • Initiating the conduct of trainings for the technology unskilled teachers and staff • Implementing the mentoring system	Measures in adapting technology – age educational landscape	Technology Skills Acquisition and Adaptability
	• Demonstrating self – initiative to learn the use of technology • Asking assistance from skilled teachers • Being optimistic to learn despite lack of knowledge on technology application • Having strong desire to study and learn technology use	Appropriate attitude in embracing technology	
On job task performance – oriented adaptability of school head	• Delegating tasks properly to teachers and school staff • Recognizing the potentials of the teachers and staff • Aligning roles and responsibilities • Cultivating leadership skills to teachers • Using consultative efforts in all undertakings of the school	Approaches to school governance	Roles and Accountability of the School Head
	• Making teacher and staff feel so special • Giving positive feedback • Showing trust and confidence to teachers and staff in their assigned task	A compassionate leader	

Attributes of Effective and Efficient School Head. This is one of the essential themes that arose from the responses of the participants when asked about their experiences regarding the leadership effectiveness of their school heads. This theme includes *facilitating practices of a functional school head* and *establishing positive school environment* as codes. In terms of facilitating practices of a functional school head, the participants disclosed that the leadership effectiveness of the school heads is manifested through establishing the preparation of the school physically and ensuring the establishment of safety protocols. The participants cited that their school heads clearly articulate the direction of the school goals to ensure success of the programs for the students and other stakeholders.

Moreover, the participants highlighted that their school heads demonstrate support in all school programs and activities, motivate and empower teachers and other school staff for them to improve personally and professionally, and present transparent financial report as regards the use of school funds in the procurement of school supplies and equipment. These are evident from the responses of the participants as follows:

The other code on attributes of effective and efficient school head is establishing positive school environment. The specific ideas under this code include promoting culture of respect despite failures and unexpected untoward situations and upholding harmonious relationship with the internal and external stakeholders of the school. The following statements of the participants supports these core ideas:

Technology Skills Acquisition and Adaptability. When the participants were asked on the technology leadership preparedness of the school head, their responses led to the essential theme which is technology skills acquisition and adaptability. This theme includes *measures in adapting technology – age educational landscape* and *appropriate attitude in embracing technology* as important codes. In terms of measures in adapting technology – age educational landscape, the participants revealed that the school heads assign technology skilled teachers to monitor school's emails, Facebook Page, and messenger, among others.

The participants further revealed that the school heads initiate the conduct of trainings for the technology unskilled teachers and staff. In addition, the participants

emphasized that the school heads provide internet connections, computer, IT equipment, and other gadgets that are essential for the conduct of online classes, faculty meetings, and other needs. Moreover, the participants stressed that the school heads implement mentoring system to help technology unskilled teachers and staff cope with the demands of the new normal in education. The following are the statements of the participants:

In terms of appropriate attitude in embracing technology, the participants divulged that the school heads demonstrate self – initiative to learn the use of technology. According to the participants, the school heads ask assistance from skilled teachers in the use of online platforms and computer program application. In addition, the participants also revealed that the school heads are optimistic to learn despite lack of knowledge on technology application. Moreover, the participants highlighted that the school heads have strong desire to study and learn the use of technology in education. These are evident in the following statements of the participants:

Roles and Accountability of the School Head. When the participants were asked regarding job task performance – oriented adaptability of their school heads, the essential theme that emerged from their responses is role and accountability of the school head. The important codes are *approaches to school governance* and *a compassionate leader*. In terms of approaches to school governance, the participants disclosed that the school heads delegate tasks properly to teachers and school staff. The participants further disclosed that the school heads recognize the potentials of the teachers and staff and align roles and responsibilities of each one in the school. As what the respondents made known, the school heads cultivate leadership skills to teachers and use consultative efforts in all undertakings of the school. These findings are evident in the following statements of the participants:

Another code derived from the responses of the participants is a compassionate leader. According to the participants, the school heads, as compassionate leaders, make teachers and staff feel so special through recognizing them when tasks are done successfully. In addition, the school heads provide regular feedback to help them improve their work delivery. Further, the participants emphasized that the school

heads show confidence and trust to teachers and staff in their assigned tasks. The following statements of the participants support these core ideas:

Role of Experiences in Shaping the Belief, Attitude, Commitment of Participants

Table 6 presents the role of experiences in shaping the belief, attitude, and commitment of participants towards leadership effectiveness of their school heads. The core ideas based on the responses of the participants are classified according to beliefs, attitudes, and commitment. The essential themes are leadership skills and competencies, possession of wholesome personality of a leader, and delivery of quality education.

Leadership Skills and Competencies. This belief – related essential theme emerged from the responses of the participants when asked on the role of their experiences in shaping their beliefs and attitudes towards leadership effectiveness. Based on their experiences, the important codes generated are *qualifications of a good leader* and *decisiveness and organizational ability*.

According to the participants, leading by example while empowering and influencing teachers is an essential ability of a good leader. In addition, school heads who motivate teachers lead them to better performance. Moreover, school heads who build good rapport among teachers and staff gained increased support from them. Also, based on their experiences, they believed that to become a leader, one needs to be totally equipped and prepared. Further, the necessity of having a school head who is adaptable and flexible was also stressed by the participants, particularly when unforeseen events emerge.

Table 6: Role of Experiences in Shaping the Belief, Attitude, Commitment

Subject Probed	Core Ideas	Codes	Essential Themes
On belief	• Leading by example empowers and influence teachers • Motivating teachers leads them to better performance • Having good rapport increases the support from and among teachers and school staff	Qualifications of a good leader	Leadership Skills and Competencies

	• Becoming a leader needs to be totally equipped and prepared • Having a leader who is adaptable and flexible is acceptable		
	• Taking every decision of the leader counts to a successful task • Working collaboratively is essential in accomplishing task easily	Decisiveness and organizational ability	
On attitude	• Listening to the ideas of others • Being firm but considerate • Maintaining a good relationship with other agencies outside DepEd • Knowing to adjust to different people of different personalities • Learning to apply varied approaches to deal with different teachers • Facing challenges positively leads in seeking alternative strategies	Positive attitude in leading schools	Possession of wholesome personality of a leader
	• Developing the ability to discern • Reacting impulsively might escalate issues • Realizing that overreaction does not help at all • Demonstrating open – mindedness and respect	Self - discipline	
On commitment	• Becoming diligent towards work • Giving what is best and not settling on mediocrity • Doing tasks properly for the school stakeholders to deliver expected deliverables	High standards and rigorous learning and teaching goals	Delivery of Quality Education
	• Learning to be patient in all challenges encountered • Developing a God – fearing individual	Living with values	

Another essential code generated from the responses of the participants when asked about their beliefs towards leadership effectiveness is decisiveness and organizational ability. They disclosed that being a leader requires a school head to be adept in decision – making especially that his or her decision could affect the teachers, staff, students, and other stakeholders. Nonetheless, the participants emphasized that following the leader's decisions and supporting their cause counts as a successful task, and that working together is necessary for completing tasks quickly.

Possession of Wholesome Personality of a Leader. This essential theme derived from the responses of the participants generated the codes *positive attitude in leading schools* and *self - discipline*. In terms of the code positive attitude in leading schools, the participants disclosed that listening to the ideas of others and being firm but considerate are some of the attitudes that they have developed because of their experiences as regards the leadership effectiveness of their school heads. In addition, the participants stated that their school heads taught them how to maintain positive relationships with other agencies outside of DepEd.

Further, they also learned how to adapt to various people with various personalities and use a variety of ways in dealing with them. Furthermore, the participants revealed that they learned how to face challenges positively that led them to seeking alternative strategies is another attitude that they have developed as a result of their experiences with their school heads' leadership effectiveness.

In terms of the code self – discipline, the participants stated that they are in the process of building discernment skills, which they attribute to their school leaders' leadership. Further, the participants revealed that reacting the impulsively might exacerbate issues. Hence, they need to be reflective at all times, and demonstrate open – mindedness and respect towards their school heads and colleagues. The following are the specific statements of the participants:

Delivery of Quality Education. The commitment – related essential theme that emerged from the responses of the participants when asked on the role of beliefs and attitudes towards leadership effectiveness is delivery of education. This generated the

important codes which are *high standards and rigorous learning and teaching goals* and *living with values*. In terms of the code high standards and rigorous learning and teaching goals, the participants stated that the leadership effectiveness of their school heads contributed to their diligence towards work despite the ancillary functions given to them. They also emphasized that being connected with the education sector entails doing tasks properly for the school stakeholders and delivering the expected deliverables.

In terms of the code living with values, the participants underscored that the leadership of their school heads taught them the importance of learning to be patient throughout all problems they face in carrying out their jobs and responsibilities. Further, the participants underscored that school heads, as leaders, must develop individuals who are God – fearing, which they believed as fundamental requirement of people working in government agencies. The following are the statements of the participants:

Joint Display of Salient Quantitative and Qualitative Findings

Table 7 shows the joint display of salient quantitative and qualitative findings. It shows the nature of data integration in both quantitative and qualitative findings of the study. The first column pertains to the aspect or focal points, the second and the third column pertain to the quantitative findings and the qualitative findings, respectively, while the fourth column pertains to the nature of integration. The qualitative and quantitative data were checked for commonalities before the results were combined. The nature of data integrated illustrates the pair of quantitative and qualitative findings that are merged in the merging analysis.

Table 7: Joint Display of the Salient Qualitative and Quantitative Findings

Aspect or Focal Point	Quantitative Findings	Qualitative Findings	Nature of Integration
Technology Leadership Preparedness			
Visionary Leadership	Table 1 on Technology Leadership	Table 7 on lived experiences, has a code manifestation of the	Merging-Converging

	Preparedness of School Heads under indicator, Visionary Leadership, on item, Facilitates a change that maximizes learning goals using digital resources, is rated Very High, M=4.46, SD=.70	facilitating practices of a functional school head and the core idea on, articulating clearly the direction of the school goals that ensure success of the programs for the students and other stakeholders, highlighting the theme, Attributes of Effective and Efficient School Head	
Digital Age Learning Culture	Table 1 on Technology Leadership Preparedness of School Heads under indicator, Digital Age Learning Culture, on item, Ensures instructional innovation focused on continuous improvement of digital learning, is rated Very High, M=4.46, SD=.69	Table 7 on lived experiences, has a code manifestation of Measures in adapting technology - age educational landscape and the core idea on initiating the conduct of trainings for the technology unskilled teachers and staff, highlighting the theme, Technology Skills Acquisition and Adaptability	Merging-Converging
Excellence in Professional Practice	Table 1 on Technology Leadership Preparedness of School Heads under indicator, Excellence in Professional Practice, on item Allocates time, resources, and access to ensure ongoing professional growth in technology fluency and integration, is	Table 7 on lived experiences, has a code manifestation of the Measures in adapting technology - age educational landscape and the core idea on providing internet connections, equipment, computers and other gadgets for the online classes, faculty meetings and other needs, highlighting the theme, Technology Skills	Merging-Converging

	rated Very High, Mean=4.45, SD=.69	Acquisition	
Systemic Improvement	Table 1 on Technology Leadership Preparedness of School Heads under indicator, Systemic Improvement, on item, Recruits highly competent personnel who use technology to advance academic and operation goals.is rated Very High, Mean=4.44, SD=.71	Table 7 on lived experiences, has a code manifestation of the Measures in adapting technology – age educational landscape and the core idea on Assigning technology skilled teachers to monitor school's emails, Facebook, messenger, among others, highlighting the theme, Technology Skills Acquisition and Adaptability	Merging - Converging
Digital Citizenship	Table 1 on Technology Leadership Preparedness of School Heads under indicator, Digital Citizenship, on item, Promotes and models responsible social interactions related to the use of technology and information, is rated Very High, Mean=4.46, SD=.66	Table 7 on lived experiences, has a code Measures in adapting technology - age educational landscape and the core idea on Assigning technology skilled teachers to monitor school's emails, Facebook, messenger, among others, highlighting the theme, Technology Skills Acquisition and Adaptability	Merging – Converging
Job Task Performance – Oriented Adaptability			
Creativity Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Creativity, on item, Is	Table 7 on lived experiences, has a code manifestation of Measures in adapting technology - age educational landscape,	Merging – Converging

	an innovative person, is rated Very High, Mean=4.46, SD=.70	and core idea on Implementing the mentoring system of skilled teachers to technology unskilled teachers and staff, highlighting the theme, Technology Skills Acquisition and Adaptability	
Cultural Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Cultural Adaptability, on item, Works well with diverse others, is rated Very High, Mean=4.49, SD=.71	Table 7 on lived experiences, has a code manifestation, Establishing positive school environment and core ideas on Upholding harmonious relationship with internal and external stakeholders, highlighting the theme, Attributes of Effective and Efficient School Head	Merging - Converging
Interpersonal Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Tries to be flexible in dealing with others, is rated Very High, Mean=4.50, SD=.71	Table 8 on roles of experiences has a code manifestation, Positive attitude in leading schools, and core ideas on Learning to apply varied approaches to deal with different teachers with different personality, highlighting the theme, Possession of wholesome personality of a leader	Merging – Converging
Learning Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Learning Adaptability,	Table 7 on lived experiences, has a code manifestation, Appropriate attitude in embracing technology, and core idea	Merging – Converging

	on item, Learns new skills continually for his/her job, is rated Very High, M=4.50, SD=.71	on Demonstrating self-initiative to learn the use of technology, highlighting the theme, Technology Skills Acquisition and Adaptability	
Uncertainty Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Uncertainty Adaptability, on item, Performs well in uncertain situations, is rated Very High, M=4.21, SD=.83	Table 8 on roles of experiences, has core ideas on Doing tasks properly for the school stakeholders to deliver its expected deliverables, and Giving what is best and not settling on mediocrity, and code manifestation, High standards and rigorous learning and teaching goals, highlighting the theme, Delivery of Quality Education	Merging – Converging
Work Stress Adaptability	Table 2 on Job Task Performance – Oriented Adaptability, under indicator, Work Stress Adaptability, on item, overreacts to stressful news, is rated High, Mean=3.13	Table 8 on roles of experiences, has code manifestation on Self-discipline, and core ideas, Reacting impulsively might escalate issues, and Being reflective at all times, highlighting the theme, Possession of wholesome personality of a leader	Merging - Converging
Leadership Effectiveness			

Instructional Programs	Table 3 on Leadership Effectiveness, under indicator, Instructional Programs, on item, Coordinates the general instructional activities of teachers, is rated Very High, Mean=4.40, SD=.72	Table 3 on lived experiences, has a code manifestation, Approaches to school governance, and core ideas, Using consultative efforts in all undertakings of the school, highlighting the theme, Roles and Accountability of the School Head	Merging – Converging
Staff Personnel Administration	Table 3 on Leadership Effectiveness, under indicator, Staff Personnel Administration, on item, Views teachers' attendance to class as very important, is rated Very High, Mean=4.57. SD=.67	Table 7 on lived experiences, has core ideas, Empowering teachers and school staff, highlighting the theme attributes of effective and efficient school head and Table 8, on roles of experiences has core ideas, Becoming diligent towards work, and a code manifestation, High standards and rigorous learning and teaching goals, highlighting the theme, Delivery of quality education	Merging – Converging
Student Personnel Administration	Table 3 on Leadership Effectiveness, under indicator, Student Personnel, on item, Shows concern on school performance in examinations, is rated Very High, Mean=4.52, SD=.68	Table 8 on roles of experiences has the core ideas, Doing tasks properly for the school stakeholders to deliver its expected deliverables And code manifestation, High standards and rigorous learning and teaching goals, highlighting the theme, Delivery of Quality Education	Merging - Converging

Financial and Physical Resource	Table 3 on Leadership Effectiveness, under indicator, Financial and Physical Resources, on item, Evaluates the use of physical resources in his/her school. is rated Very High, Mean= 4.51, SD=.67	Table 7 on lived experiences has the code manifestation, Facilitating practices of a functional school head, and core ideas, Establishing the preparation of the school physically and the protocols for the teachers, students, parents and others, and Presenting transparent financial report as regards use of school funds in procurement of equipment, highlighting the theme, Attributes of Effective and Efficient School Head	Merging – Converging
School Community Relations	Table 3 on Leadership Effectiveness, under indicator, School Community Relation, on item, Involves the community on school projects, is rated Very High, Mean = 4.54, SD=.66	Table 8 on roles of experiences has a code manifestation of Positive attitude in leading schools and core idea, Maintaining a good relationship with other agencies outside DepEd, with a theme Possession of wholesome personality of a leader and a code manifestation of decisiveness and organizational ability and core idea, Working collaboratively is essential in accomplishing tasks easily, highlighting the theme, Leadership Skills and Competencies	Emerging – Converging

For **technology leadership preparedness**, several items have been found common to both the quantitative and qualitative findings. In terms of the aspect or focal point

visionary leadership, the specific quantitative finding, which is related to a qualitative finding, is the item *facilitating a change that maximizes learning goals using digital resources* with a mean rating of 4.46 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are facilitating practices of a functional school head and attributes of effective and efficient school head respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point digital age learning culture, the specific quantitative finding which is related to a qualitative finding highlights the item *ensuring instructional innovation focused on continuous improvement of digital learning* with mean rating of 4.46, which is described as very high. This item coincides with the qualitative finding whose code and essential theme are measures in adapting technology – age educational landscape and technology skills acquisition and adaptability respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point excellence in professional practice, the specific quantitative finding which is related to qualitative finding highlights the item *allocating time, resources, and access to ensure ongoing professional growth in technology fluency* with a mean rating of 4.45 which is described as very high. This item coincides with the qualitative finding whose code and essential theme are facilitating practices of a functional school head and attributes of effective and efficient school head respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point systemic improvement, the specific quantitative finding which is related to qualitative finding highlights the item *recruiting highly competent personnel who use technology to advance academic and operation goals* with mean rating of 4.44 which is described as very high. This item coincides with the qualitative finding whose code and essential theme are facilitating practices of a functional school head and attributes of effective and efficient school head respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point digital citizenship, the specific quantitative finding which is related to qualitative *finding highlights the item promotes and models responsible social interactions related to the use of technology and information* with mean rating of 4.46 which is described as very high. This item coincides with the qualitative finding whose code and essential theme are measures in adapting technology – age educational landscape and technology skills acquisition and adaptability respectively. These items when merged, were found to be converging.

For **job task performance – oriented adaptability**, several items have also been found common to both the quantitative and qualitative findings. In terms of the aspect or focal point creativity adaptability, the specific quantitative finding which is related to qualitative finding highlights the item *is an innovative person* with mean rating of 4.46 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are measures of adapting technology - age educational landscape and technology skills acquisition and adaptability respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point cultural adaptability, the specific quantitative finding which is related to a qualitative finding highlights the item *working well with diverse others* with mean rating of 4.49 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are establishing positive school environment and roles and attributes of effective and efficient school head respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point interpersonal adaptability, the specific quantitative finding which is related to a qualitative finding highlights the item *trying to be flexible in dealing with others* with mean rating of 4.50 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are positive attitude in leading schools and possession of wholesome personality of a leader respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point learning adaptability, the specific quantitative finding which is related to a qualitative finding highlights the item *learning new skills continually for his or her job* with mean rating of 4.50 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are appropriate attitude in leading schools and possession of wholesome personality of a leader respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point uncertainty adaptability, the specific quantitative finding which is related to a qualitative finding highlights the item *performing well in uncertain situations* with mean rating of 4.21 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are high standards and rigorous learning and teaching goals and delivery of quality education respectively. These items when merged, were found to be converging.

In terms of the aspect or focal point work stress adaptability, the specific quantitative finding which is related to a qualitative finding highlights the item *overreacting to stressful news* with mean rating of 3.13 and is described as moderate. This item corresponds to the qualitative finding whose code and essential theme are self - discipline and possession of wholesome personality of a leader respectively. These items when merged, were found to be converging.

For **leadership effectiveness**, notable number of items have also been found common to both the quantitative and qualitative findings. For the aspect or focal point instructional programs, the specific quantitative finding which is related to a qualitative finding focuses on the item *coordinating the general instructional activities of teachers* with mean rating of 4.40 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are approaches to school governance and roles and accountability respectively. These items when merged, were found to be converging.

Another quantitative finding that is related to a qualitative finding pertains to the aspect or focal point staff personnel administration, particularly on the item *coordinating the general instructional activities of teachers* with mean rating of 4.40 and is described as very high. This item coincides with the qualitative finding whose

code and essential theme are approaches to school governance and accountability of the school head respectively. These items when merged, were found to be converging.

Also, in terms of the aspect or focal point staff personnel administration, the specific quantitative finding which is related to a qualitative finding is the item *viewing teachers' attendance to class as very important* with mean rating of 4.57 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are high standards and rigorous learning and teaching goals and delivery of quality education respectively. These items when merged, were found to be converging.

In addition, the specific quantitative finding on the aspect or focal point student personnel administration that is related to a qualitative finding is the item *showing concern on school performance in examinations* with mean rating of 4.57 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are high standards and rigorous learning and teaching goals and delivery of quality education respectively. These items when merged, were found to be converging.

Further, for the aspect or focal point financial and physical resource, the specific quantitative finding which is related to a qualitative finding is the item *involving the community on school projects* with mean rating of 4.54 and is described as very high. This item corresponds to the qualitative finding whose code and essential theme are high standards and rigorous learning and teaching goals and delivery of quality education respectively. These items when merged, were found to be converging.

Moreover, for the aspect or focal point school community relations, the specific quantitative finding which is related to a qualitative finding is the item *involving the community on school projects* with mean rating of 4.54 and is described as very high. This item coincides with the qualitative finding whose code and essential theme are positive attitude in leading schools and possession of wholesome personality of a leader respectively. These items when merged, were found to be converging.

DISCUSSION

This chapter presents the discussion of the results and implications of the findings of the study. Further, the order of the discussion is based on the major topics as follows: level of technology leadership preparedness, level of job task performance - oriented adaptability, level of leadership effectiveness, moderating role of job task performance – oriented adaptability on the relationship between technology leadership preparedness and leadership effectiveness and lived experiences of public secondary school teachers as regards leadership effectiveness of their school heads.

Level of Technology Leadership Preparedness of School Heads

The level of technology leadership preparedness of school heads as assessed by the participants is very high. This implies that technology leadership preparedness is always manifested among school heads in Region XI. This denotes that the school heads in Region XI possessed technology leadership preparedness. This capability is essential for school heads to lead and navigate in the technology – rich environment. School heads must be aware of their preparation level and the available resources for them to become a successful technology leader (Morehead et al., 2015). Further, results revealed that school heads are ready to guide teachers in enhancing the teaching – learning process and in creating technology – rich environment. These findings coincide with the study of Dogan (2018) which revealed that school administrators are willing and supportive of using technology in both administrative and educational operations. The study also implies that the school heads, as school leaders, are the primary promoters of technology uses and practices in the schools.

Moreover, the study further implies that the school heads are able to coordinate efficiently and effectively the use of technology in the school. These results conform to the study of Villareal (2019) which revealed that school leaders demonstrated technology leadership preparedness by being involved in the implementation of technology practices that supported teachers through collaborative training style and that school leaders have a positive outlook towards technology by being engaged actively in teacher trainings focused on enhancing learning through technology. In addition, the school heads' main responsibility as technological leaders is motivating

teachers to incorporate technology into the teaching and learning process (Beytekin, 2014).

Visionary Leadership. The results of this study revealed that the level of visionary leadership of school heads is very high. This implies that visionary leadership among school heads is always evident. This means that school heads encourage a shift that maximizes learning objectives using digital resources. The high level of visionary leadership among school heads is indicative that they are also engaged in a continuous process of developing, implementing, and communicating technology-infused strategic plans in their respective schools. This result is in consonance with the study of Karwan et al. (2021) which found out that visionary leaders used the right vision as a guide in leading followers to work in accordance with the vision, including the ability to own innovations that lead to changes in the environment. The school heads, as leaders, are able to see the direction to which the school as an organization is heading in this highly technologically – driven environment. To enable organizational change and foster excellence, school heads who are visionary leaders guide the creation and execution of a cohesive strategy for complete technology integration (2009 ISTE NETS-A).

Further, this study revealed that school heads advocate for programs and funds to aid in the execution of technology -enhanced strategies. This means that school heads are fully aware that implementing technology practices in the school involves the provision of information technology infrastructure and the essential resources to ensure the implementation or use of information and communication technology to reinforce curriculum implementation in the classroom.

Thus, school heads prioritize programs for technology use and adaptation as well as the provision of funds to support such. This finding supports the study of Chang (2011) which highlighted the importance for school heads to develop and implement vision and development plans of their schools, provide adequate technological resources, develop an effective school-evaluation plan, and provide infrastructural support, among others. Furthermore, a visionary leader can inspire others to work toward a shared future objective, convey that goal to others, identify opportunities and challenges, and link current events and emerging trends that may have an impact

on the future (Grieser, 2020).

Digital Age Learning Culture. This study revealed that the level of digital age learning culture of school heads is very high. This means that digital age learning culture is evident among school heads in Region XI. This result coincides with the study of Ugor and Koc (2019) which disclosed that principals recognized the need to keep abreast of digital age technology. Also, the study implies that the school heads identify, implement, evaluate, and promote appropriate technologies to enhance and support instruction and standards-based curriculum, which may result to improved student achievement. The study further implies that school heads assure ongoing instructional innovation targeted at increasing digital learning. As the leaders of their schools, the school heads are responsible for creating a vibrant, digital-age learning environment that gives every student a rigorous, timely, and engaging education (2009 ISTE NETS-A).

Moreover, the study indicates that the school heads are keen on providing learner-centered environments that leverage technology to suit the specific and diverse needs of students. Thus, the integration of technology in the teaching – learning process is ensured through prioritization of collaboration among teachers. These results are in consonance with the propositions of Hughes and Burke (2014) that a digital principal facilitates and reinforces teachers' work in creating a technology-rich learning environment that invites exploration, collaboration, critical thinking, problem solving, and participation in tasks connected to real-world contexts; and that a digital principal provides learners with well – equipped technology and resources to meet the varying needs of students. To successfully integrate technology into the teaching-learning process, collaboration among teachers, staff, and the principal is prioritized in the context of the digital age culture (Mantik, 2019).

Excellence in Professional Practice. The findings also revealed that the level of excellence in professional practice of school heads in Region XI is also very high. This indicates that excellence in professional practice is always evident among school heads. This means that the school heads use technology to improve their professional practice and to raise their own and others' productivity. The school heads model the use of technology through effective communication and

collaboration among the stakeholders of the schools. In addition, the school heads provide professional development opportunities for teachers through initiating the conduct of learning action cells (LAC) sessions where 21st century skills and ICT integration in instruction and assessment is a focused area. The most efficient professional development for technology integration takes place in collaborative learning sessions when teachers share their pedagogical knowledge and technological expertise (Cox, 2013).

Further, the school heads are able to foster an environment of professional learning and innovation that allows teachers to use modern technologies and digital resources to improve student learning. These findings acknowledge the study of Chang (2011) which suggested that principals as technology leaders must encourage the technological development of teachers through participation in trainings and development programs. Added on, these findings agree with the study of Chang et al. (2008) which emphasized that to display technology leadership preparedness, principals should help train and support teachers' technological development. Further, professional practice of technology integration is a team effort that needs the right leadership of the school head to steer the process of instructional change (Villareal, 2019).

Systemic Improvement. The results of this study also showed that the level of technology leadership preparedness of school heads in terms of systemic improvement is also very high. This suggests that acknowledging the importance of systemic improvement is always evident among school heads in Region XI. Specifically, the school heads have paid attention to the interrelationships of all parts in the system. Systemic improvement marks the success of a school not just individually but also as a whole (Hargreaves et al., 2007). Additionally, the results revealed that the school heads provide digital – age leadership and management to promote change in the education system and to improve the performance of the school by increasing the use of technology. Further, the results showed that the school heads utilize data in decision – making.

Moreover, the school heads acknowledge highly competent school personnel who employ technology in advancing academic and operational goals. Furthermore, the

school heads establish partnerships with stakeholders to support systemic improvement especially in terms of information and communications technology which is of paramount importance to the school's operation. This specific finding is in line with the study of Chang (2011) which emphasized that principals as technology leaders must provide sufficient infrastructure support. This also supports the results of the study of Can (2016) that systemic improvement was rated as "very high" and was considered as the most important dimension of technology leadership. Leaders must collaborate with industry to operate and sustain a technology infrastructure as well as hire and keep tech – savvy teachers and staff who will undertake efforts for academic advancements and operational improvements (Sykora, 2009).

Digital Citizenship. The results of this study also showed that the level of technology leadership preparedness of school heads in terms of digital citizenship is also very high. This means that digital citizenship is always evident among the school heads. This accords with the study of Metcalf (2012) which revealed that the Southeastern U.S. school districts exhibited highest technology leadership preparedness in terms of digital citizenship. This suggests that the school heads observed the norms of behavior when using technology. Specifically, the school heads communicate with respect, respect the privacy of others, see things from different perspective, and provide useful information, among others.

Additionally, the school heads possess the ability to effectively use technology, infer and interpret digital content, assess its credibility, and considers the ethical advantages and problems that the digital world presents. In this study, digital citizenship garnered a higher mean value which is parallel to the results of the study of Raman et al. (2014) where among the dimensions of technology leadership, digital citizenship had been found to have the highest mean, reflective of a very high rating. Nonetheless, the results of this study contradict the results of the study of Raman & Thannimalai (2019) where digital citizenship had garnered the lowest mean score and that should be given utmost priority by school management. In this highly technological era, digital citizenship especially among school leaders is imperative for it is the capacity to effectively use technology, interpret, understand, and evaluate

digital content's reliability as well as to critically consider the ethical opportunities and challenges of the digital world (Common Sense Media White Paper, 2011). Added on, school heads, as the leaders in the school, must be digital citizens for them to guide the teachers and students alike to become digital citizens as well (Isman & Gungoren, 2014).

Level of Job Task Performance – Oriented Adaptability of School Heads

This study revealed that the level of job task performance – oriented adaptability of school heads as assessed by the participants is very high. This implies that job task performance – oriented adaptability is oftentimes demonstrated by the school heads in Region XI. The findings further showed that the school heads possess the ability to react and respond constructively to the changes, novelty, and uncertainty brought about by the changing landscape in education. School heads respond to new, changing, and/or unpredictable settings, contexts, and scenarios by managing psycho-behavioral functions (Collie and Martin, 2016). Further, they adapt and adjust to the varied responsibilities and issues that the school faces on a regular basis. As primary school leaders, school heads frequently faced with unique situations for which their leadership is challenged. Nonetheless, they learned to trust their own judgment and make difficult decisions with confidence.

These findings coincide with the study of Hernandez (2019) which revealed that adaptive leaders possess the ability to solve new problems while improving their resiliency, ingenuity, and problem – solving skills. This study also supports the claim of Baard et al. (2014) which stated that adaptive individuals are able to use limited resources and creative ideas to solve problems. Job task performance – oriented adaptability particularly among school heads, is very essential as they are confronted to make decisions that are appropriate for the given situation on a daily basis (Rajbhandari, 2014).

Creativity Adaptability. As revealed by this study, the level of creativity adaptability of school heads is very high. This means that creativity adaptability is always demonstrated by the school heads in Region XI. Adapting to life challenges and unanticipated obstacles, calls for the school heads to be creative. This is evident

in the ways school heads tackle difficulties in running schools with limited resources and high demands to improve school performance targets such as contextualizing learning resources and initiating school – based trainings. This finding supports the proposition of Hamadat (2008) that the principals' creative ability is reflected in devising methods and ideas that can maximize employees' responsiveness to accomplish the goals of the educational institutions.

Additionally, school heads examine problems at different perspectives so they can devise the most fitting solutions. Further, the study revealed that school heads are skilled in terms of creating innovative solutions to complex problems. This finding supports the statement of Orkibi (2021) that creativity adaptability is responding to challenging conditions in an innovative manner. Additionally, school heads learn to be creative so that they would be able to implement school programs and projects which will cater all students at very limited resources. This is an indication of the school heads' creativity adaptability. Being creative means having the capacity to spawn novel or uncommon ideas or behaviors as well as adaptive to situations (Peterson & Seligman, 2004). Similarly, the difficult and uncertain situations such as the pandemic, allowed school heads to be creative in tackling the contextual needs of both the teachers and the students (Sider, 2020).

Cultural Adaptability. The results of this study showed that the level of cultural adaptability of school heads is very high. This implies that cultural adaptability is demonstrated by the school heads in Region XI. This means that the school heads are able to appreciate and enjoy other people's culture as they have the opportunity to interact and work with several group of people with varying culture. The results further revealed that the school heads work well with these diverse others as it is palpable that the school heads manage personnel with different abilities, attitudes, backgrounds, beliefs, capacities, gender orientation, and social status among others. Being adaptive to culture entails learning different facets of other groups, organizations, and culture (Piorkowska, 2016).

In addition, each school is part of the community where it is geographically located, hence, the school heads facilitate building of relationships among the external stakeholders. Being able to do so implies that the school heads possess the ability to

accept and understand the norms of the community. These findings conform to the study of Malfati (2017) which disclosed that an individual manifests cultural adaptability when he or she can positively interact with others and understands their cultural norms. Moreover, the findings also validate the study of Huang et al. (2014) which revealed that cultural adaptability entails actively changing one's behavior or appearance to fit in or correspond with diverse cultural norms, as well as an understanding of how one's actions affect individuals from different cultures. Individuals who are culturally adaptable willfully change their behavior or appearance as needed to adhere to or respect others' values and customs and understand the consequences of their actions and change their approach to maintain good relations with other groups, organizations, or cultures (Pulakos et al., 2000).

Interpersonal Adaptability. The results of this study showed that the level of interpersonal adaptability of school heads is very high. This dimension obtains the highest rating among the five dimensions of job task performance – oriented adaptability. This means that interpersonal adaptability is always demonstrated by the school heads in Region XI. This finding implies that school heads are open – minded when it comes to dealing with school personnel and all other stakeholders of their respective schools. Additionally, the school heads are flexible and are able to build and maintain good connections with them. These results are aligned with one of the provisions of DepEd Order No. 24, s. 2020 which stated that the fifth domain of the Philippine Professional Standards for School Heads (PPSSH) is building connections and that it highlights the importance of engaging stakeholders in school activities. In addition, interpersonal adaptability has been roughly characterized as one's ability to adapt and be flexible with a variety of people (Pulakos et al. 2001).

Further, the results imply that the school heads exhibit competence in engaging internal and external stakeholders in all initiatives towards improvement. The high rating given to interpersonal adaptability is indicative that the school heads possess skills that are necessary in forging relationships with others. These findings are parallel with the findings of the study of Oliver and Lievens (2014) which stated that individuals with high adaptability skills are more likely to form stable relationships. Also, the results validate the proposition of Harris (2015) which suggested that

principals must build relationships that value both the internal and external stakeholders. Good relationships of the schools with the stakeholders can translate to successful delivery of programs and projects. Moreover, being adaptable and flexible in dealing with others will possibly generate positive outcomes because of the willingness of the individuals to work as a team (Powers, 2014).

Learning Adaptability. The results of this study revealed that the level of learning adaptability of school heads is very high. This implies that learning adaptability is always demonstrated by the school heads. As the roles and responsibilities of the school heads cover several aspects to manage, they need to learn several approaches so they can properly execute their functions. The results of this study indicate that school heads appreciate learning new approaches in conducting or performing their job tasks.

In addition, school heads adapt to new methods in solving problems and continually learn new skills as regards delivery of their job tasks. This agrees with the proposition of Behlol (2010) that learning takes place whenever there is adjustment or adaptation to situations or improvement. In addition, the schools are always challenged to improve their performance, hence, requiring school heads to continuously seek for ways to attain such, and on process they learn to craft initiatives and strategies. This result supports the definition of learning highlighted in the paper of Wiberg et al. (2016) that it is the acquisition of skills and insights. As emphasized, learning is a constant process of improvement in human performance or potential and arises from the learner's experiences and interactions with the world around an individual (Driscoll, 2000). Furthermore, while performing a variety of duties and functions, school heads have the chance to advance their knowledge and abilities (Cacciatolo, 2015).

Uncertainty Adaptability. As revealed by this study, the level of uncertainty adaptability of school heads is high. However, its rating is lower compared to creativity adaptability, cultural adaptability, and learning adaptability. This means that uncertainty adaptability is oftentimes demonstrated by the school heads in Region XI. This implies that school heads oftentimes adapt to uncertain situations. Also, the result indicate that school heads are oftentimes flexible when faced with

unpredictable events. These results confirm the study of Choudhury and Collins (2021) which highlighted the importance of adaptability of the leaders in guiding the organizations during unpredictable situations.

Further, uncertainty is also present when there is insufficient or unreliable information such as in disease outbreaks, natural calamities, political unrest, and financial stability among others. Whenever faced with these kinds of scenarios, school heads are more likely to make effective decisions. These findings support the assertion of Bartsch et al. (2020) that in a quickly changing situation, leaders must detect impending issues and make effective judgments based on little information. The capacity of the leader to anticipate, avoid, manage, and overcome crises and uncertainty is crucial in the success of the organization (McCarthy, 2014). As the schools are also confronted with uncertain situations such as the pandemic, the school heads' ability to make effective actions despite limited information is crucial. Additionally, leaders can effectively mobilize their organizations by establishing clear priorities for the response, bringing teams together to work toward a single objective, and giving individuals the freedom to find and implement solutions that meet those priorities (De' Auria & De Smet, 2020).

Work Stress Adaptability. As revealed by this study, the level of work stress adaptability of school heads is moderate. This dimension obtains the lowest rating among the five dimensions of job task performance – oriented adaptability. This means that work stress adaptability is sometimes demonstrated by the school heads in Region XI. There are two categories of workplace factors that cause stress, and these are the content of work and the social and organizational context of work (Michie, 2002).

With the moderate rating on this dimension, it can be deemed that school heads sometimes tend to overreact when faced with stressful workplace factors. Based on the results, school heads most likely get shaken when confronted with packed schedule, heavy workload, and meager resources. These findings coincide with the study of Elomaa et al. (2021) which pointed out that workload and lack of resources were among the stressors of the elementary school principals in Finland. In addition, the results agree with the study of Sogunro (2012) which found out that financial and

time constraints, conflicts, challenging policy demands and overwhelming mandates and workloads are among the stress factors identified by school heads. Nonetheless, principals have learned how to adapt with stressful conditions through their practical experiences but there are hard situations which may challenge their social and emotional preparations (Mahfouz, 2018).

Level of Leadership Effectiveness of School Heads

This study disclosed that the level of leadership effectiveness of school heads as assessed by the participants is very high. This implies that leadership effectiveness is always manifested among school heads in Region XI. This means that school heads strategically lead the school by setting the direction, goals, and objectives in consonance with the organizational vision and mission of DepEd. Additionally, the school heads are able to ensure that these are properly communicated to both the internal and external stakeholders.

More importantly, the school heads manifest their leadership effectiveness by influencing the school personnel to direct all their efforts towards achieving the shared objectives. This finding supports the claim of Yukl (2013) that leadership effectiveness is the ability of a leader to effectively influence people in the organization and other stakeholders to achieve organizational goals. School heads possess the ability to comprehend relevant information resources, such as existing laws, policies, research, feedback, and contexts. One of the key responsibilities of school heads is to improve instruction (Harvey, 2013). Relative to this is the result of the study that divulged that school heads put into practice their role as instructional leaders by implementing the policies and guidelines on curriculum implementation as directed by DepEd and coordinating the overall activities of the teachers.

Also, school heads build and maintain relationships with internal and external stakeholders. This supports the study of Yukl (2012) which found out that most leaders must cultivate and maintain positive relationships with peers, superiors, and external sources of information, resources, and political support. However, this study negates the study of Kempa et al. (2017) on Ambon 2nd Junior Secondary School which disclosed that the principals has not had effective leadership. Nonetheless,

leadership effectiveness is manifested when the common goals are achieved through significant contributions of each individual in a team (Cooper and Nirenburg, 2004).

Instructional Programs. This dimension of leadership effectiveness was described as very high. This implies that the school heads always manifested leadership effectiveness in terms of instructional programs. This means that the school heads give emphasis on instructional programs as an essential aspect to which the schools must perform very well. The instructional programs of the school involves curriculum component and teaching procedure component (Instructional Program, 2010). The school heads are fully aware that the curriculum implementation and all the relevant components must be given much attention. In this regard, the school heads help the teachers in developing new instructional materials.

Also, the school heads aid the teachers in selecting appropriate learning resource materials. This finding conforms to the study of Ibukun et al. (2011) which pointed out that the tasks of the school heads include designing and implementing the instructional programs of the schools. The importance of the teaching procedure component of the instructional programs is also underscored by the school heads. This is through initiating and observing the religious conduct of learning action cells (LAC) where collaboration among teachers is enhanced and discussion on content and pedagogy is elaborated to improve teaching practices. This supports the study of Harvey (2013) that emphasized the roles of effective principals include improving instruction so that teachers may do their best work and students can learn to their full potential. In addition, the school heads as the managers of the instructional programs must perform under three leadership functions such as overseeing and assessing education, coordinating the curriculum, and keeping track of student achievement (Hallinger & Chen, 2013). **Staff Personnel Administration.** This dimension of leadership effectiveness was also described as very high. This implies that the school heads always manifested leadership effectiveness in the aspect of staff personnel administration. This means that the school heads are fully aware of their responsibility of managing the human resources of their respective schools. As such, they implement policies and strategies related to managing the personnel effectively and efficiently. The school head oversees both the teaching and non-teaching

employees in the school to guarantee that the correct hiring of personnel, provide assistance and evaluate performance (Sothy, 2019).

Also, the school heads are committed to developing the teaching and non – teaching personnel both professionally and personally. Thus, they recognize the importance of maintaining capable talents in the schools who are instruments in realizing the vision and mission of the schools. This are evident in the provision of training and development programs and benefits and consideration of employee welfare in schools. In addition, the school heads give opportunity to teachers by allowing them to exercise authority in doing their duties.

Further, they exercise delegation of tasks to the personnel as an opportunity to lead and learn about the school processes. This is seen as a mechanism to cultivate commitment among personnel and encourage team effectiveness. These coincide with the study of Emily (2014) which disclosed that principals, as managers of the human resources, have the following responsibilities: recruiting staff, encouraging teamwork among staff, empowering staff, encouraging career development, looking into benefits and condition of service, and fostering employee relations among others.

Moreover, the findings of the study also agree with the study of Tadesse (2011) which emphasized that the roles of principals as human resource managers include managing the teaching staff and providing them with training and development programs that are continuous, wide-ranging, and results – focused. As the human resource manager of the school, the school head is tasked to motivate the teachers and staff to advance their careers for their good and of the school organization (Emily, 2015).

Student Personnel Administration. This dimension of leadership effectiveness was also described as very high. This implies that the school heads always manifested leadership effectiveness in the aspect of student personnel administration. In leading in the aspect of student personnel, the school heads recognize and understand the varying values of the students as well as the extent to which student values differ from those of the school as a whole. Thus, the right of all children to appropriate

education regardless of race, color, ability and disability is ensured. These results are in consonance with the provisions of DepEd Order No. 06, s. 2009 which highlighted the inclusive education as strategy for increasing participation rate of children. One of the foremost functions of the school head include students personnel functions (Aguba, 2019).

Further, the school heads advocate a learning – centered environment which is one of the mandates of the DepEd. Moreover, the school heads recognized the participation of the students in decision - making as the student organization is part of the of the School Governing Council (SGC). These findings are in consonance with DepEd Order No. 45, s. 2007 also known as the Institutionalization of the Supreme Student Government (SSG) which allowed students to practice participatory democracy and at the same time implement programs which will advocate student welfare. These findings support the claim of Iroegbu (2018) that student personnel administration is student – centered programs and services. Moreover, the tasks of ensuring the establishment and implementation of student personnel administration is upon the head of the academic institution (Aguba, 2009)

Financial and Physical Resource. This dimension of leadership effectiveness was also described as very high. This implies that the school heads always manifested leadership effectiveness in the aspect of financial and physical resource. This means that the school heads are observant of their responsibility and accountability as far as managing the schools' finances and physical resources is concerned. In line with this, the school heads adhere to policies, guidelines, and issuances in allocation. Also, the school heads observe the procurement process as well as the distribution, disbursement, and liquidation and assure that all these are aligned with the school fiscal plans.

Additionally, as the financial managers, the school heads evaluate the financial resources to ensure that the spending is for most prioritized programs, projects, and activities of the school. These findings are in consonance with the study of Espinosa (2017) which revealed that school leaders' financial management practices assist schools in developing budgets, setting objectives, identifying sources of human resources, time allocation, teaching and learning materials, and appropriate costing.

However, the findings of this study are in contrast with the study conducted to schools in Kenya by Wagithunu et al. (2014) which divulged that their principals lacked professionalism as regards managing the financial resources of the schools. This is also in contrast with the study of Dwangu and Mahlangu (2021) conducted to school principals in the Eastern Cape Provincial Department of Education which disclosed that a flexible framework allows school principals to participate in school financial mismanagement. It must be emphasized that successful financial management depends on the school leaders' ability to raise money for the school, monitor spending, assess the budget, and do audits (Amos et al., 2015).

The school heads also give importance to managing the physical resources of the school as it has a direct impact to the learning environment. This means that the school heads manage the physical resources of the schools by adhering to policies and guidelines as well as to issuances pertaining to acquisition, recording, storage, disposal repairs, and utilization of infrastructure and equipment. This finding coincides with the study of Stringer and Hourani (2016) which revealed that the school heads have contributed to the improvement of the school facilities through the provision of facilities for students with special needs. Nonetheless, the result of this study is in contrast with the study of Tobin (2014) that pointed out the maintaining safe physical facilities is one of the identified issues on management and leadership. Effective and efficient management of the school’s physical resources entails distribution and utilization of the physical resources to accomplish the school's goals and objectives (Ayana, 2019).

School Community Relations. This dimension of leadership effectiveness was also described as very high. This implies that the school heads always manifested leadership effectiveness in the aspect of school community relations. This is indicative that the school heads have established a good relationship with the stakeholders and school partners. This also means that the school heads possess the ability to build connections with the external stakeholders by effectively communicating the goals and objectives and engaging them in the endeavors of the schools. These findings coincide with the study of Kempa et al. (2017) which

showed that principals have a large network of stakeholders with whom they communicate and ask the assistance for the advancement of school activities.

One activity of public schools in which the support of the stakeholders is very apparent is the conduct of Brigada Eskwela. The school heads allow stakeholders to participate in planning activities and seek consultation with school partners for school improvement initiatives. Also, representatives from external stakeholders are part of the School Governing Council (SCG) such as parent representative and barangay or local government unit representative. These findings support the study of Tam (2007) which emphasized that a school should develop partnerships with its community for them to work together towards improving educational effectiveness. Having that collaborative partnership and open communication with their external communities in a systematic way may result to gaining public support, minimizing criticism, learning about a community's values and priorities, and receiving many useful ideas and resources that will help them to better educate students (Kladifko, 2013).

Moderating Role of Job Task Performance – Oriented Adaptability

In the first step of the hierarchical regression analysis, technology leadership preparedness yields significant contribution to leadership preparedness. In the second step of the hierarchical regression analysis, both technology leadership preparedness and the moderator variable which is job task performance – oriented adaptability were found to have significant contribution to leadership effectiveness. This implies that the school heads whose technology leadership preparedness is evident manifested leadership effectiveness. This result validates the study of Weng and Tang (2014) which found out that school administrators who were very cognizant of adopting technology leadership tactics were generally quite effective in their school management.

Moreover, school heads who exhibit job task performance – oriented adaptability manifested leadership effectiveness. This result supports the study of Bartone et al. (2013) which revealed that the adaptability of the leader is an essential characteristic and has a direct relationship with leadership effectiveness. Additionally, more

adaptable leaders have more positive outcomes than less adaptable leaders (Hyllengren, 2017). This implies that adaptable leaders are more effective at leading their organizations.

Meanwhile, results in the third step of the hierarchical regression analysis suggest that the interaction effect was a contributor to the model variance. Hence, it can be stated that job task performance – oriented adaptability moderated the relationship between technology leadership preparedness and leadership effectiveness.

The above – mentioned results support the suggestion of Apoi et al. (2021) that job task performance – oriented adaptability can be included in a leadership effectiveness model for which creative, innovative, collaborative, and analytical skills are contributors to work performance. This implies that a school head must be creative and innovative to perform his job tasks effectively and efficiently. This also implies that a school head, as a leader, must champion collaboration among his members to accomplish tasks and contribute meaningfully to the attainment of shared goals and objectives.

Also, besetting problems in the school due to changes, challenges, and uncertainties might challenge the leadership effectiveness of the school head. Hence, requiring analytical and problem-solving skills of the school head. Also, this study supports the study of Holtkamp (2014) which revealed that adaptability moderated the relationship between skills and leadership effectiveness especially by allowing an individual to apply their expertise to solving unique and challenging organizational and follower issues.

Nonetheless, this study contradicts the study of Davis (2020) which found out that the perceived job task performance – oriented adaptability did not indicate a significant moderating role on the relationship between employee adaptability and job performance. The contradiction of this study to that of Davis (2020) might be because of the difference in the scope of the studies; for which this study focuses on leadership effectiveness of the school heads as leaders while Davis (2020) focuses on the job performance of the employees. However, an adaptive leader is more likely to achieve effective leadership, according to prior studies (Ling et al., 2011).

The Lived Experiences of Participants Regarding their School Heads' Leadership Effectiveness

This study is also interested in the lived experiences of the participants as regards the leadership effectiveness of their school heads. The themes that emerged from the statements of the participants are *attributes of effective and efficient school head, technology skill acquisition and adaptability*, and *roles and accountability of the school head.*

Attributes of Effective and Efficient School Head. This essential theme has codes *facilitating practices of a functional school head* and *establishing positive school environment*. Under facilitating practices of a school head, the participants stressed that the school heads establish the preparation of the school physically and the protocols for the teachers, students, parents, and others. This suggests that the school heads recognize the importance of safe, secure, and satisfactory educational facilities as an indispensable aspect of the school.

Further, the school heads acknowledge that a safe, secure, and adequate educational facilities will support the learning process. This confirms the study of Buckley (2004) which emphasized that school facility is a factor to the teaching – learning process. Also, this result supports the claim of Mendell (2004) that there is a link between the health of the students and the teachers to the physical environment of the school.

The participants also stressed that the school heads clearly communicate the directions of the school goals and demonstrate support to ensure the success of the programs for the students and other stakeholders. This implies that the school heads acknowledge that the success of the school is a shared responsibility of the internal and external stakeholders. This conforms to the proposition of Ubben et al. (2011) that the schools do not exist in isolation. The stakeholders must be involved in the planning and implementation of programs, projects, and activities for them to be successful. One of the school heads' ultimate roles is to be proactive in getting to know the community and building long-term partnerships (Kladifko, 2013).

Furthermore, the participants revealed that the school heads possess the ability to motivate and empower the school staff for them to improve both professionally and personally. This means that the school heads acknowledge the importance of an effective team to carry out the implementation of school programs and activities. This also implies that the school heads provide avenues and opportunities for teachers to learn, lead, and progress in their career professions. This supports the study of Sharma and Kannan (2011) which found out that school heads who support teacher leadership opportunities develop leadership potential, in turn promotes leadership among teachers.

Moreover, the participants disclosed that school heads present transparent financial reports as regards use of school funds in the procurement of equipment. This implies that the school heads are keen in establishing a culture of transparency and accountability in their respective schools. This also means that the school heads observe policies and guidelines on the utilization of funds and procurement process. Additionally, an important aspect of principal leadership is openness, that the principal must be open in his decision – making and in how he manages the finances of the school (Winingsih & Sulistiono, 2020).

Regarding the code establishing a positive school environment, the participants revealed that school heads advocate a culture of respect despite failures and unexpected untoward situations. This implies that school heads establish relationships with everyone in the school based on respect, honesty, trust, and openness. Furthermore, the school heads are fully aware of their responsibility and accountability regardless of whatever the outcome of any school endeavor. At the same time, the school heads uphold harmonious relationship with internal and external stakeholders. These findings coincide with the study of Kladifko (2013) which argued that collaborative partnership is expected between the school principal and the school personnel and that this must be extended to the school community as the school cannot function alone. Fostering interpersonal connections with and among staff employees, parents, students, and community stakeholders is a key component of good leadership (Preston & Barnes, 2018).

Technology Skills Acquisition and Adaptability. This essential theme derived from the experiences of the participants has two important codes which are *measures in adapting technology – age educational landscape* and *appropriate attitude in embracing technology.* With respect to measures in adapting technology – age educational landscape, the participants stated that school heads assign technology skilled teachers to monitor school's emails, Facebook Page, messenger, and all other online platforms used by the school. This means that the school heads seek the help of the technology skilled teachers in the utilization of online applications specifically used for communication and information purposes.

This also means that the school heads acknowledge the capabilities of the teachers by delegating tasks to them. This strategy echoes distributed leadership where teachers are allowed to be leaders in their own rights. This finding agrees with the study of Akinbode and Shuhumi (2018) which revealed that principals employ the principle of investment by giving opportunity to the staff to act as leaders practically through effective delegation.

Further, school heads initiate the conduct of trainings for the technology unskilled teachers and staff so that they can integrate the use of available technology in the delivery of their respective duties and functions. This means that the school heads recognize the importance of training programs for teachers and staff as an approach to providing learning and development. This also coincides with the study of Akinbode and Shuhumi (2018) which found out that principals employ the principle of enablement by providing trainings and supportive skills to teachers and staff.

Moreover, the participants revealed that the school heads provide internet access, computers, gadgets, and other IT equipment for online classes, faculty meetings, and other virtual activities. This is indicative that the school heads acknowledge the pedagogical paradigm shift to infuse technology in the teaching – learning process. This also means that the school heads are fully aware that technological breakthroughs contribute to the changing landscape in education and that this must be utilize to an advantage. These findings support the study of Banoglu (2011) which disclosed that the school principals were affirmative on using computers and other educational technologies. Also, a successful integration of information technologies

into the educational system is dependent, first and foremost, on educators' understanding and responsibility for its utility (Velickovic & Stosic, 2016).

In terms of the code appropriate attitude in embracing technology, the participants disclosed that the school heads demonstrate self – initiative to learn the use of technology. They also asked assistance from the technology skilled teachers especially during attendance to virtual meetings, conferences, seminars, and other virtual activities. In addition, the participants disclosed that their school heads are optimistic despite lack of knowledge on technology application.

Additionally, they have strong desire to study and learn how to use available technologies as an aid in performing their tasks of managing and operating the schools regardless of the challenges and complexities. This implies that they are most likely willing to learn and adapt to the highly – technological environment. Their willingness to learn despite difficulties experienced in using the technologies partially speaks about their technology leadership preparedness. This agrees with the study of Edwards (2020) which posited that the school heads learn to be technology leaders through their experiences, initiatives, and reflection. They basically learn through professional development programs and through the extended help from others. Furthermore, principals possessed positive attitude towards the use of technology and that they were motivated to learn from the workshop that they had attended (Serhan, 2007).

Roles and Accountability of the School Head. This third essential theme derived from the responses of the participants has two important codes which are *approaches to school governance* and *a compassionate leader.* With respect to the code approaches to school governance, the responses of the participants highlighted the statement that school heads delegate tasks properly to teachers and school staff while aligning their respective roles and responsibilities. This means that school heads acknowledge their own capacity and limitation as far as performing their various duties and functions. Hence, potential teachers and school staff are tapped and allowed to handle managerial tasks.

Further, consultative efforts are observed in all school undertakings. Thus, cultivating leadership skills to teachers. These findings confirm the study of Harvey (2013) that underscored the long-standing consensus in leadership theory which maintains that leaders in all walks of life and all types of organizations, public and private, must rely on others to achieve the group's goals and must promote leadership development throughout the organization.

In connection with the code a compassionate leader, the responses of the participants underscored the importance of a school head who makes teachers and staff feel special and valued. Also, the respondents underscored the importance of giving timely positive feedback which is coherent with the proposition of Sothy (2019) that feedback is necessary for performance improvement and achievement of expectations. Further, showing trust and confidence to teachers and staff in their assigned tasks motivates them to perform better. These findings are also in consonance with the study of Agunwa et al. (2019) that emphasized school administrators should foster positive and healthy relationships inside the school by communicating formally with all the school's personnel and ensuring that staff welfare is promoted through motivation and training. An effective school head is crucial to the professional development of teachers through motivating them and ensuring that they are encouraged to further their careers (Tadesse, 2011; Azar & Adnan, 2020).

Roles of Experiences in Shaping Belief, Attitude, and Commitment of Participants as Regards Leadership Effectiveness

Different themes derived from the responses of the participants and these themes were grouped according to beliefs, attitude, and commitment which were shaped by their experiences as regards the leadership effectiveness of their school heads. These essential themes are *leadership skills and competencies, possession of wholesome personality of a leader*, and *delivery of quality education*.

Leadership Skills and Competencies. This first essential theme that emerged from the responses of the participants has two codes which are qualifications of a good leader and decisiveness and organizational ability. Pertaining to the code,

qualifications of a good leader, the participants underscored that having a school head who leads by example empowers and influence teachers to perform their tasks judiciously. This implies that teachers see their school heads as role models whom they can identify with. This finding supports the proposition of Kempa et al. (2017) that a principal's role as an educational leader is to set an example for the development of personalities of teachers and other school personnel. The school head's words, attitudes, and actions become the moral standards that define the formation of the character of the personnel under his command.

Also, school heads who motivate teachers lead them to better performance. This means that teachers will most likely perform better on given tasks when encouraged and when they see their school heads take the lead and put words into action. Further, having a school head who maintains a good rapport with teachers and school staff generates increased support from them. These findings coincide with the study of Preston and Barnes (2017) which found out that strong professional ties and positive interaction in the school generate support from the school personnel.

Moreover, the participants believed that becoming a leader requires one to be totally equipped and prepared to take on several functions, tasks, and responsibilities. Furthermore, the participants emphasized the importance of having a good leader who is adaptable and flexible. This is in consonance with the study of Singh (2013) which revealed that employees prefer to be led by leaders who are confident in their leadership roles, provide clear, unambiguous messages, maintain self-control, are adaptable and flexible, are optimistic about the future, and encourage the creation of a collegial working environment.

Meanwhile, the code decisiveness and organizational ability, emphasized that taking every decision of the leader counts a successful task. Specifically, one of the most important functions of a school head is to make decisions that could have a significant impact on the entire school, including its personnel. As such function is crucial, it necessitates acceptance and support from both internal and external stakeholders especially from teachers and school staff who primarily work with the school head. With this, participants believed that supporting the school head's decisions is a factor of successful implementation of school programs, projects, and

activities. This conforms to the study of Langley et al. (2010) which found out that one of the strategies in overcoming logistic barriers in the implementation of their school's mental health programs was to get buy – in from the teachers. This highlighted the fact that teachers' support is imperative to successful implementation of school programs. Successful principals acknowledged that they cannot do all the tasks alone and that they need the support of the teachers in order for the school to deliver its programs (Mendels, 2012).

Moreover, collaboration is emphasized as vital for completing tasks quickly as the school heads encourage and motivate teachers to cooperate with each other. This coincides with the study of Honingh and Hooge (2013) which disclosed that perceived support of a school leader influences collaboration among teachers. Collaboration among teachers and school staff is an essential component of their work when solving problems common to them (Shutton & Shouse, 2016).

Possession of Wholesome Personality of a Leader. This essential theme that emerged from the responses of the participants gives emphasis on positive attitude in leading schools and self – discipline as codes. This means that participants believed that their experiences as regards the leadership effectiveness of their school heads who possess both positive attitudes and self – discipline largely contributed to developing the same attitudes in them.

About the code positive attitude in leading schools, listening to others' opinions and being tough yet considerate are two attitudes of the school heads that have a long-term impact on the participants. As divulged by the participants they learned to listen to the opinions of their colleagues and their students basically because they are somehow influenced by their school heads. Additionally, participants also stated that their school heads assisted them in establishing positive relationships with agencies outside of DepEd. Moreover, the participants revealed that they have learned to adapt to a variety of personalities and to use various techniques to cope with different teachers with the help of their school heads.

Further, their school heads help them in facing challenges constructively which leads them to developing or adapting alternative strategies. These results coincide with the

results of the study of Barrett and Breyer (2014) which reinforced the assumption that good school leadership guides teaching and learning by modeling effective tactics, fostering positive collaborative relationships, and expressing support for teachers as they implement new strategies in the classroom. In the case of this study, teachers employ new strategies to deliver the education in a new normal setting where teaching is done remotely. Some of the strategies deployed in response to the new normal in education include online audio – video methods, television and radio methods, self – learning instructional materials, and structured approach for the development of digital curricula (Akinwumi & Itobore, 2020).

Regarding self – discipline as a code, participants highlighted that they still are developing the ability to make keen observation before reacting to situations. As there is regular updating of DepEd Orders and guidelines, a tendency to react impulsively is always possible. Nonetheless, they have realized that over reacting does not help solve issues and misunderstanding. The participants also emphasized that their ability to reflect on their actions and behavior is essential in improving their tasks so that they can contribute to the success of the school. This particular result supports the study of Clarke (2011) which gave emphasis on reflecting one's own behavior and taking responsibility on treating others as a key to sustaining the organization's projects.

Further, the participants pointed out that open – mindedness and respect are essential attitudes to cultivate among themselves. This is consistent with the findings of Spiegel (2013) which pointed out that an individual is willing to change his or her views when given with new data and reasons. Workplace respect among colleagues in the organization is crucial in any organization (Ng, 2015).

Delivery of Quality Education. This essential theme that emerged from the responses of the participants has two codes which are *high standards and rigorous learning* and *teaching goals and living with values.* In terms of the code high standards and rigorous learning and teaching goals, the results indicate that being committed towards work entails being diligent regardless of the changes and challenges. This means that to contribute to the attainment of the ultimate goal of DepEd which is quality education, school heads and teachers alike should not settle

for mediocrity but instead, give the best things that they could offer and be guided with the idea to go beyond the standards. This is parallel with the study of Mutiara et al. (2017) that pointed out the crucial role of principals in enhancing the quality of education. Also, it was emphasized by the study of Leu (2005) that the role of the teachers is vital in delivery of quality education.

With regard to the code living with values, the results revealed that with the guidance and assistance of the school heads, teachers are optimistic that they can do tasks efficiently and effectively and be able to deliver expected outputs that would translate to improved students' achievement. This particular result confirms the study of Barret and Breyer (2014) which stressed that teachers feel confident in teaching when supported by the principals. Further, the participants disclosed that their school heads played an important role in observing patience in all challenges encountered. Moreover, educational leaders are expected to help their institutions especially the personnel in navigating the difficulties presented by a more complicated world (Tobin, 2014).

Data Integration of Salient Quantitative and Qualitative Findings

Merging of the salient quantitative and qualitative findings was also applied in this study. Specifically, the qualitative data and quantitative data were compared for similarities or convergence and differences or divergence as part of the data integration process.

Merging – Converging- There are salient quantitative and qualitative findings under technology leadership preparedness in terms of the five indicators: visionary leadership, digital age learning culture, excellence in professional practice, systemic improvement, and digital citizenship.

In the aspect or focal point visionary leadership under technology leadership preparedness, the salient quantitative and qualitative finding is the item *facilitating change that maximizes learning goals using digital resources* which supports the theme attributes of effective and efficient school head. This implies that school heads assist teachers in the attainment of shared goals and objectives through the provision and utilization of digital resources. This coincides with the study of Prestiadi et al.

(2019) which emphasized that the school principal's capacity to lead as an educational leader has a huge impact on an organization's success and that a school principal, as a visionary leader, must think ahead so that the educational institution can take advantage of the technological developments to further improve the quality of education.

Added on, the need for principals to be visionary leaders so they can ensure that students are provided with learning opportunities through digital resources for them to succeed in today's highly technological society is greatly emphasized (Klimezak, 2015).

In the aspect or focal point digital age learning culture of technology leadership preparedness, the salient quantitative and qualitative finding is the item *ensuring instructional innovation focused on continuous improvement of digital learning* which supports the theme technology skills acquisition and adaptability. This implies that school heads recognize that instructional innovation is essential to improve the teaching – learning process.

With the COVID – 19 outbreak, school heads pushed for instructional innovation that would empower teachers to experiment with digital learning such as the use of online applications and platforms. This supports the study of Zhong (2017) which revealed that sufficient gadgets, technology modeling, and successful technology utilization are all indicators of digital age learning culture. This also supports the claim of Ho and Tay (2020) that digital age learning culture is manifested through school administrators' ability to use technology, teachers' ability to use it in the classroom, and students' development as future-ready learners. The sudden shift in the delivery of education paved the way for the establishment of e - learning school process which require the principals and teachers to use technologies and students to get acquainted in e – learning (Kafa & Pashiardis, 2020).

Also, in the aspect or focal point excellence in professional practice under technology leadership preparedness, the salient quantitative and qualitative finding is the item *allocating time, resources, and access to ensure ongoing professional growth and integration* which supports the theme attributes of effective and efficient

school head. This means that school heads recognize the significance of providing ICT equipment and gadgets which can be used in the creation of video lessons as well as the provision of internet connection which can be used for online classes and participation to virtual meetings and trainings. In addition, school heads utilize the learning action cells (LAC) sessions as school – based training for teachers to sharpen their technology skills. This coincides with the claim of Ugur and Koc (2019) that if teachers have adequate access to technology as well as appropriate professional development, they will be more equipped to incorporate it into the classroom. This also agrees with the study of Emily (2015) which revealed that one of the functions of the school heads is to provide opportunities for professional development of teachers. Studies have also suggested that integrating technology must be focused on training teachers based on the use of educational software and the creation of novel approaches (Villareal, 2019).

In the aspect or focal point systemic improvement under technology leadership preparedness, the salient quantitative and qualitative finding is the item *recruiting highly competent personnel who use technology to advance academic and operation goals* which supports the theme attributes of effective and efficient school head. This implies that school heads acknowledge technology skilled teachers and tapped them as coaches or mentors in the conduct of school learning action cells (LAC) sessions. With this, the school heads have established a community of practice in the school. This accords with the study of Zhong (2017) which revealed that the indicators of systemic improvement include competent and strategy partnerships. Teachers that are tech-savvy will serve as role models and assist in internal trainings which are opportune time for teachers to discuss and learn together (Mendels, 2012). In addition, strategy partnerships promote community support for the school, for the building and upkeep of facilities, or for the educational process by urging parents to make sure that their children complete their homework and attend school (Emily, 2015).

Further, in the aspect or focal point digital citizenship under technology leadership preparedness, the salient quantitative and qualitative finding is the item *promoting and modeling responsible social interactions related to the use of technology and*

information which supports the theme technology skills acquisition and adaptability. This means that school heads acknowledge that technological and information-related social interactions could be used in the teaching – learning process and put emphasis on the adherence of proper etiquette. This result is in accordance with the proposition of Carpenter (2017) that digital citizens should be able to identify between trustworthy and untrustworthy news sources and websites, as well as corroborate information across websites or accounts, contextualize tales, and comprehend the perspectives, methods, and evidence used by authors in multimodal texts. Moreover, the results support the proposition of Heick (2018) which underscored that digital citizenship is observed when assessing whether information are truthful and helpful. Moreover, educational administrators act as role models to teachers and help students comprehend the social, ethical, and legal implications of the rapidly changing digital culture (ISTE, 2009).

There are also salient quantitative and qualitative findings under job task performance – oriented adaptability in terms of the six indicators: creativity adaptability, cultural adaptability, interpersonal adaptability, learning adaptability, uncertainty adaptability, and work stress adaptability.

In the aspect or focal point creativity adaptability under job task performance – oriented adaptability, data revealed that the salient quantitative and qualitative finding is the item *is an innovative person* which supports the theme technology skills acquisition and adaptability. This means that one of the strategies on how school heads adapt to the changing landscape in education is by being innovative. This supports the claim of Courville (2011) that technology leaders in education are responsible for the many areas of innovation in the educational sector. Also, the results of this study support the proposition of Sarafidou and Xafakos (2015) that a school principal who serve as the role model for innovation will more likely build an innovative school atmosphere to cope up with the continually changing societal and educational environment. Being innovative involves coming up with a variety of original and creative ideas so that individuals and groups will work on efforts which benefit the organization (Abu-Shreah & Zidan, 2017).

Another salient quantitative and qualitative finding is in the aspect or focal point cultural adaptability under job task performance – oriented adaptability, is the item *works well with diverse others* which supports the theme attributes of effective and efficient school head. This implies that the school heads understand the concept of diversity which means that everyone in the school is unique.

Also, they are fully aware that a school is composed of different individuals with individual differences especially in the aspects of ethnicity, religion, social status, physical abilities and disabilities, and sexual orientation among others. Valuing individuals and groups free of prejudice and fostering an environment where equity and mutual respect are inherent are keys to cooperation and success in an organization. These results support the study of Aldhaheri (2020) which disclosed that it is encouraging when the school leaders can adapt their conduct and leadership to the settings and places they are in, especially considering the culturally varied environment in which they work. Further, the results are parallel with the study of Emily (2020) which claimed that school principals as human resource managers must boost the morale of the teachers and ensure supporting, just, and enabling environment.

Also, a salient quantitative and qualitative finding in the aspect or focal point interpersonal adaptability under job task performance – oriented adaptability has been noted. This is in terms of the item *trying to be flexible in dealing with others* which supports the theme possession of wholesome personality of a leader. This means that the school heads possess the ability to adapt and be flexible with a variety of people and build connection between individuals to foster team adaptability. This result supports the proposition of Velmurugan (2016) which posited that interpersonal relationships are crucial in the organization because the employees are its most precious assets. Hence, strong interpersonal relationships to build team adaptability. Also, individuals with more behavioral flexibility in terms of warmth and dominance will be able to develop a wider range of stable relationships than those with more rigid behavior (Powers, 2014).

Likewise, a salient quantitative and qualitative finding has been noted in the aspect or focal point learning adaptability under job task performance – oriented

adaptability. Specifically, the item *learning new skills continually* corroborates with the theme technology acquisition and adaptability. This means that school leaders are constantly learning new abilities that are considered essential for leading and managing schools especially that the roles and competencies for school heads are evolving. This indicates that school leaders are enthusiastic about learning a variety of skills, particularly in relation to their responsibilities as technology leaders. This supports the proposition of Edwards (2020) that the role of the principal has evolved over time, but one constant is that every principal must devote time to learning how to be an effective leader, particularly in the field of technology which plays a major role in the education system for the past few years. School heads are at the forefront of technology integration in the school; thus, they need technology training just as much as teachers do (Grey – Bowen, 2010).

Further, in the aspect or focal point uncertainty adaptability under job task performance – oriented adaptability, the salient quantitative and qualitative finding is the item *performing well in uncertain situations* which supports the theme delivery of quality of education. This means that even in the face of adversity, school heads accomplish their duties to help provide high-quality education. They feel that the difficulties particularly with the pandemic should not prevent education from being delivered.

Added on to the existing responsibilities of the school heads is to ensure the health and safety of the teachers and school staff. This finding coincides with the study of Kafa and Pashiardis (2020) in the context of Cyrpus' Educational System which revealed that school principals kept a record of teachers who were at risk due to a variety of health issues and observed teachers' eagerness to participate in the new e-learning process. Also, the results of this study are parallel with the study of Haye et al. (2021) conducted on rural school principals in the United States which disclosed that they served as caretakers who attend to the social-emotional needs of teachers, students, and parents. Correspondingly, principals and other leaders have gained valuable insights working throughout the pandemic and are ready to provide their experience and assistance if in case another crisis must be faced (Hauseman et al., 2020).

Moreover, another salient quantitative and qualitative finding is in the aspect or focal point work stress adaptability under job task performance – oriented adaptability. This is the item *overreacting to stressful news* which supports the theme possession of wholesome personality of a leader. This means that school heads have the tendency to overreact when faced with taxing tasks and unexpected situations.

However, the results also showed that they are able to recognize and reflect that any overreaction does not help address issues and problems. This result confirms the study of Denecker (2019) which found out that one of the causes of stress of school principals as regards their work, is the lack of access to information necessary to do their jobs properly and their coping strategies are mostly focused on decreasing or preventing conflictual interpersonal relationships. The results are also parallel with the findings of the study of Sogunro (2012) which revealed that work - related factors are causes of stress and that 96 percent of the respondents said they had encountered work-related stress at a level they felt was impacting their productivity, work habits, and mental and physical health. Similarly, workload and interpersonal conflicts are some of the causes of stress of school principals and that one way of managing their stress is through social support from colleagues and others (Elomaa et al., 2021).

Furthermore, there are salient quantitative and qualitative findings under leadership effectiveness in terms of the five dimensions: instructional programs, staff personnel administration, student personnel administration, financial and physical resource, and school community relations.

In the aspect or focal point instructional programs, the salient quantitative and qualitative finding is in the item *coordinating the general instructional activities of teachers* which supports the theme roles and accountability of the school head. The school heads mostly perform the task of coordinating the teachers' general educational activities with the aid of the collective efforts of teachers and staff. School heads must ensure that processes are in place since schools are expected to do better in terms of curriculum implementation while adhering to the policies and guidelines set by DepEd. This result supports the study of Lemoine et al. (2014) that emphasized the primary task of school principals is in curriculum and instruction in

which they must organize teacher activities including professional development, encourage innovations, conduct monitoring, and allow teachers to be part of the leadership team, among others. However, even when tasks are assigned or shared, the school head still has a major leadership role in coordinating and overseeing the academic program of the school (Hallinger et al., 2013).

Added on, in the aspect or focal point staff personnel administration, the salient quantitative and qualitative finding is in the item *viewing teachers' attendance to class as very important* which supports the theme delivery of quality education. This implies that the school heads emphasize the role of the teachers in facilitating actual time – on – task engagement of students. This conforms to the study of Lemoine et al. (2014) which argued that school heads must conduct monitoring of teachers and evaluate their performance. Further underscored in the said study that time spent in school is very important not just for students but also for school heads and teachers. This result also confirms the study of Kempa et al. (2017) which suggested that school principals must instill in the staff the value of time and the importance of using it as efficiently as possible. School heads are tasked to ensure that instructional time is maximized through monitoring that teachers begin and end classes on time and observing classes religiously (Akram et al., 2017).

Another salient quantitative and qualitative finding specifically in the aspect or focal point student personnel administration is the item *showing concern on school performance in examinations* which supports the theme delivery of quality education. This implies that the school heads understand that students' performance in examinations, whether local, national, or international, is the key indicator of their educational process and speak largely of the quality of education. These results coincide with the study of Lamas (2015) which revealed that school performance indicates to what extent students achieve learning for which they devote their primary effort. Thus, for the school to be effective, school heads lead the schools in focusing on school performance. Also, the results support the study of Bhujel (2021) which claimed that principals who were deemed to be successful were passionate and committed to improving school performance. The performance of the school is not based on how teachers teach but rather, on how students perform in national

examinations, hence, students' academic progress must be closely monitored (Malunda et al., 2017).

Further, in the aspect or focal point financial and physical resources, the salient quantitative and qualitative finding is in the item *evaluating the physical resources in his/her school* which supports the theme attributes of effective and efficient school head. This means that the school heads exercise well their functions as the physical facilities manager of the school. This conforms to the provisions of the 2010 Educational Facilities Manual of DepEd which emphasized that the school heads have administrative control over their respective schools. They specifically conduct the assessment and evaluation of their respective school plants and submit relevant reports and recommendations to the Schools Division Superintendent. This coincides with the study of Onyekwere (2019) on public secondary schools in East Senatorial District of River State which revealed that the school principals conduct to a high extent the routine assessments on school infrastructure. Further, the responsibility of maintaining a first-rate physical facility for their pupils, professors, and staff is seen by principals as their obligation (Mathis, 2014).

Another salient quantitative and qualitative finding is seen in the aspect or focal point school community relations which is the item *involving the community on school projects* which supports the theme possession of wholesome personality of a leader. This indicates that the school heads acknowledge that the active involvement of the school community will result to the attainment of the strategic goals of DepEd and the specific objectives of the schools especially on the improvement of learning outcomes. This supports the claim of Torres (2021) that the stakeholders have a vital role in maintaining improved school outcomes. This also means that the school heads are fully aware of the provisions of the Basic Education Sector Reform Agenda (BESRA) which pointed out that attainment of national development goals require active participation of the community stakeholders.

Additionally, among the studies that support this result is that of Emily (2011) which revealed that improving school programs requires involving other members of the community and organizations to collaborate and promote environmental learning and environmental management practices in schools. Moreover, school heads who are

actively involved in the community can advocate projects and programs on educational concerns with the local government (Kladifko, 2013).

Consequently, the results of the study confirmed the Adaptive Leadership Theory by Heifetz (1994) which explained how school heads assisted teachers and other school personnel in accomplishing tasks as a manner of adjusting to the changes in the situations. This study further confirmed the idea that flexible and adaptive leadership described the ability of school leaders to modify their attitudes and behaviors in response to challenges and changes. Also, the Situational Leadership Approach by Hersey and Blanchard (1969) which explained how school heads adapt to the situations and new experiences, was also confirmed by the results of this study. As explained by this theory, the ability of effective leaders to thoroughly understand the changing needs and expectations of the team members, is also confirmed by the results of this study.

Furthermore, this study confirmed the Skills Approach Leadership Theory by Katz (1955) which stated that a leader must possess necessary skills to perform their job. The technical skills possessed by the school heads allowed them to be proficient in their work or activity while their conceptual skills allowed them to create a vision and a direction for the school organization. Moreover, the school heads' human skills enabled them to assist teachers and employees in collaborating to achieve the school's objectives.

CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusions drawn from the findings and the recommendations made regarding this study.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

The school heads’ level of technology leadership preparedness is very high indicating that technology leadership preparedness is always evident among school heads in Region XI. This means that school heads promote and support the successful use of

educational technology in the integration of all school organizational decisions and policies with the teaching and learning process.

Meanwhile, the school heads' level of job task performance – oriented adaptability is high indicating that job task performance – oriented adaptability is oftentimes demonstrated by school heads in Region XI. This means that they react and respond constructively to the changes, novelty, and uncertainty brought about by the changing landscape in education. Also, they adapt and adjust to the various duties, responsibilities, and challenges they face as school leaders. The results further showed that among the six dimensions of job task performance – oriented adaptability, work stress obtained the lowest rating, followed by uncertainty adaptability. These implies that the school heads need to improve in these areas.

More so, the school heads' leadership effectiveness is very high which implies that leadership effectiveness is always manifested by the school heads in Region XI. They strategically guide the schools by establishing the direction, goals, and objectives in accordance with the DepEd's organizational vision and mission. The results also showed that among the dimensions of leadership effectiveness, instructional programs obtained the lowest rating, indicative that school heads can further improve in terms of this dimension.

Moreover, the job task performance – oriented adaptability of school heads moderated the relationship between technology leadership preparedness and leadership effectiveness. Thus, it can be gleaned that job task performance – oriented adaptability has a significant moderation role on the relationship between technology leadership preparedness and leadership effectiveness. This means that school heads who can adapt and be flexible to the changes and challenges will be most likely to exhibit technology leadership preparedness that could possibly translate to leadership effectiveness.

The qualitative data on leadership effectiveness showed that school heads exhibit attributes of an effective and efficient school head, which are critical in leading and managing a school, particularly when faced with challenges and uncertainties to which the school must adjust. This indicates that school heads properly convey the

school's goals and recognize that the school's success is a joint responsibility of both the internal and external stakeholders.

Further, the participants' experiences as regards the leadership effectiveness of their school heads had shaped their beliefs, attitude, and commitment. They believed that handling leadership positions necessitates strong leadership skills and competencies to empower and influence teachers and school personnel to perform tasks judiciously. With the changing educational landscape, a school head must be adaptable to a variety of tasks and responsibilities, optimistic about the future, and promoter of a collaborative working atmosphere. Also given emphasis by the participants is that school heads are viewed as role models, hence, their words, attitudes, and deeds become the moral standard by which the individuals under their charge develop their character.

Furthermore, data integration of the salient findings, both quantitative and qualitative findings, exhibited parallel results. These corroborated findings mean that the quantitative and qualitative findings merged and converged with each other.

Recommendations

Considering the foregoing conclusions, the following recommendations were offered:

Since the level of technology leadership preparedness of the school heads is very high, it is recommended that school heads may sustain the very high level of technology leadership preparedness. This may be done by initiating instructional innovations that are focused on the continuous improvement of digital learning through technology infused practices, advocating community of technology practices among teachers that will stimulate collaboration, providing learning and development programs focused on integrating technology in the teaching – learning process, and strengthening partnerships to help establish and maintain information infrastructure which is necessary for the school to offer digital learning. In addition, since the school heads lead in the crafting of the School Improvement Plan (SIP), they may showcase their technology leadership preparedness by considering

technology uses and practices as an improvement area which may be prioritized by the school planning team when deemed necessary.

Since the job task performance – oriented adaptability of school heads is high, this may be improved further. Specifically, in the dimension of work stress adaptability which obtained the lowest rating. It is recommended that school heads may improve their ways of coping work stress through individual stress management and organizational stress management. School heads may consider attending stress management workshops and facilitating the same in their respective schools to educate school personnel on the causes and effects of work stress. This may build trust among people in the school which could eventually lessen or counter work stress and improve work stress adaptability.

The uncertainty adaptability dimension of job task performance – oriented adaptability obtained the second lowest rating; hence, this could be improved further. School heads may consider improving their uncertainty adaptability through improving decision-making skills even when faced with insufficient information and learning to control frustrations when unpredictable situations occur. The experiences during the pandemic may be helpful as they can reflect on how they successfully overcome the changes and challenges encountered.

Since the level of leadership effectiveness of school heads is very high, it is recommended that this may be sustained. Although all five dimensions of leadership effectiveness were rated very high, instructional programs obtained the lowest rating. Hence, it is recommended that school heads may focus on improvement on this dimension. School heads may consider improvement through providing teachers with learning and development programs focused on contextualized instructional programs based on students' needs, technology – infused instruction, and initiating programs for slow learners.

Since job task performance – oriented adaptability moderated the relationship between technology leadership preparedness and leadership effectiveness, it is recommended that higher governance levels may consider developing learning and

development programs for school heads that will boost their creativity, innovativeness, interpersonal skills, and problem-solving skills.

Since the lived experiences of the participants highlighted the theme technology skills acquisition and adaptability, it is recommended that learning and development programs for school heads may also include activities which will enhance their abilities of adapting to the technology – age educational landscape. It is also recommended that they may sustain the provision of internet connection and other ICT equipment and gadgets which will be of great help for teachers in coping with the pedagogical paradigm shift to infuse technology in the teaching – learning process.

Since the participants highlighted that importance of having a school head who makes them feel valued and special, it is suggested that school rewards and recognition programs for personnel may be strengthened including teacher – staff activities that nurture interpersonal and collaborative relationships. Likewise, the institutionalization of welfare programs in the school level is recommended.

REFERENCES

1. Abu-Shreah, M., & Zidan, H. (2017). The Degree of Schools Principals Practicing Innovation and its Relation with the Teachers' Professional Development. *Journal of Education and Practice*, *8*(8), 20-36.

2. *Act Establishing Career Guidance and Counselling Program for all Secondary Schools* (DepEd Memorandum No. 28, s. 2019). (2019). Department of Education.

3. Aguba, C. R. (2009). Educational Administration and management: Issues and perspectives. *Enugu. Tons and Tons PDS*.

4. Agunwa, J. N. (2019). Personnel Management: Implications for the Effectiveness of the School System. International Journal of Research and Innovation in Social Science. *International Journal of Research and Innovation in Social Science (IJRISS)*, *3*(10), 391-395. DOI: 10.2139/ssrn.3194793

5. Akinbode, A. I., & Shuhumi, S. A. (2018). The Principalship in the Twenty - First Century. *International Journal of Teaching, Education and Learning*, *2*(2), 137-148. DOI-https://dx.doi.org/10.20319/pijtel.2018.22.137148

6. Akinnubi, O. P., & Kayode, D. J. (2012). Student personnel services and students' behaviours in University of Ilorin, Ilorin. *Global Journal of Applied Sciences, Management and Social Sciences*, *1*, 1-14.

7. Akinwumi, F. S., & Itobore, A. A. (2020). Managing Education in a Peculiar Environment: A Case Study of Nigeria's Response to COVID-1. *International Studies in Educational Administration*, *48*, 92-99.

8. Akpan, C. P. (2016). *Student Personnel Services In Higher Education* [Unpublished doctoral dissertation]. University of Calabar.

9. Akram, M., Kiran, S., & ILGAN, A. (2017). Development and validation of instructional leadership questionnaire. *International Journal of Organizational Leadership*, *6*(1), 73-88. https://doi.org/10.33844/ijol.2017.60435

10. Al-Ababneh, M. M. (2020). THE CONCEPT OF CREATIVITY:DEFINITIONS AND THEORIES. *International Journal of Tourism & Hotel Business Management (IJTHBM) (ISSN: 2641-6948)*, *2*(1), 245-249.

11. Alaszewski, A., & Coxon, K. (2009). Uncertainty in everyday life: Risk, worry and trust. *Health, Risk & Society*, *11*(3), 201-207. https://doi.org/10.1080/13698570902906454

12. Aldhaheri, A. (2020). Measuring school leaders' adaptability in the UAE: Development of a scale to measure leadership adaptability. *Evidence-based HRM: a Global Forum for Empirical Scholarship*, *9*(1), 34-46. https://doi.org/10.1108/ebhrm-04-2020-0051

13. Aldhaheri, A. (2020). Measuring school leaders' adaptability in the UAE: Development of a scale to measure leadership adaptability. *Evidence-based HRM: a Global Forum for Empirical Scholarship*, *9*(1), 34-46. https://doi.org/10.1108/ebhrm-04-2020-0051

14. Amos, O., Ephrahem, G., & Bhoke-Africanus, A. (2021). Effectiveness of school heads' financial management skills in provision of quality education in secondary school. *Journal of Education, Society and Behavioural Science*, 20-28. https://doi.org/10.9734/jesbs/2021/v34i230302

15. Andriopoulos, C. A. (2000). *Mind stretching: A grounded theory for enhancing organizational creativity* [Unpublished doctoral dissertation]. University of Strathclyde.

16. Ang, A., Hodrick, R. J., Xhing, Y., & Zhiang, X. (2006). The Cross-Section of Volatility and Expected Returns. *The Journal of Finance*, *61*(1), 265-299. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1540-6261.2006.00836.x

17. Apoi, A., Abdul Latip, H. B., & Takong, A. J. (2021). The moderating role of individual adaptability in the leadership effectiveness model: A conceptual paper. *International Journal of Academic Research in Economics and Management Sciences*, *10*(3). https://doi.org/10.6007/ijarems/v10-i3/10202

18. Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory-building. *American Psychologist*, *62*(1), 25-33. https://doi.org/10.1037/0003-066x.62.1.25

19. Ayana, A. M. (2019). Study on the Management of School Finance and Physical Resources of Secondary Schools in North Gondar Zone, Ethiopia. *Research Journal of Social Science & Management*, *8*(12), 73-93.

20. Azar, A. S., & Adnan, E. J. (2020). The impact of effective educational leadership on school students' performance in Malaysia. *Education Quarterly Reviews*, *3*(2). https://doi.org/10.31014/aior.1993.03.02.127

21. Baard, S. K., Rench, T. A., & Kozlowski, S. W. (2014). Performance adaptation: A theoretical integration and review. *Journal of Management*, *40*. https://doi.org/10.1177/0149206313488210

22. Banoglu, K. (2011). School Principals' Technology Leadership Competency and Technology Coordinatorship. *Educational Sciences: Theory & Practice*, *11*(1), 208-213.

23. Barrett, C., & Breyer, r. (2014). The Influence of Effective Leadership on Teaching and Learning. *Journal of Research Initiatives*, *1*(2), 1-9. https://digitalcommons.uncfsu.edu/jri/vol1/iss2/3

24. Barrett, N., Butler, J. S., & Toma, E. F. (2012). Do less effective teachers choose professional development does it matter? *Evaluation Review*, *36*(5), 346-374. https://doi.org/10.1177/0193841x12473304

25. Bartone, P. T., Kelly, D. R., & Matthews, M. D. (2013). Psychological hardiness predicts adaptability in military leaders: A prospective study. *International Journal of Selection and Assessment*, *21*(2), 200-210. https://doi.org/10.1111/ijsa.12029

26. Bartsch, S., Weber, E., Büttgen, M., & Huber, A. (2020). Leadership matters in crisis-induced digital transformation: How to lead service employees effectively during the COVID-19 pandemic. *Journal of Service Management*, *32*(1), 71-85. https://doi.org/10.1108/josm-05-2020-0160

27. Behlol, M. G., & Dad, H. (2010). Concept of Learning. *International Journal of Psychological Studies*, *2*(2).

28. Bennett, N., & Lemoine, J. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2406676

29. Beytekin, O. (2014). High School Administrators Perceptions of Their Technology Leadership Preparedness. *Educational Research and Reviews*, *9*(14), 441-446. DOI: 10.5897/ERR2014.1858

30. Bhujel, C. B. (2021). The Role of Principal in Improvement of School Performance: A Qualitative Study in Community School of Nepal. *Research Journal of Education*, *7*(1), 1-10. DOI: https://doi.org/10.32861/rje.71.1.10

31. Black, T. R. (2002). *Understanding Social Science Research* (2nd ed.). SAGE.

32. Bonß, W. (2013). Risk. Dealing with uncertainty in modern times. *Social Change Review*, *11*(1), 7-36. https://doi.org/10.2478/scr-2013-0002

33. Bransford, J., Derry, S., Hammerness, K., & Beckett, K. L. (2005). Theories of learning and their roles in teaching. In N. L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world* (pp. 40-87). Wiley.

34. Buckley, J., Schneider, M., & Shang, Y. (2004). The effects of school facility quality on teacher retention in urban school districts. *NCEF*. www.edfacilities.org/pubs/teacherretention.pdf

35. Building ed tech leadership. (2007). *Learning & Leading with Technology*, *48*.

36. Cacciattolo, K. (2015). Defining Workplace Learning. *European Scientific Journal*, *1*. ISSN: 1857 – 7881

37. Cameron, R. (2011). *An Analysis of Quality Criteria for Qualitative Research* [Unpublished doctoral dissertation]. Central Queensland University.

38. Carpenter, J. P. (2021, June 2). *Digital citizenship in the curriculum*. ASCD. https://www.ascd.org/el/articles/digital-citizenship-in-the-curriculum

39. Caufield, J. (2020, August 14). *How to do thematic analysis | A step-by-step guide & examples*. Scribbr. https://www.scribbr.com/methodology/thematic-analysis/

40. Chang, I. H., Chin, J. M., & Hsu, C. M. (2012). The Effect of Principals' Technological Leadership on Teachers' Technological Literacy and Teaching Effectiveness in Taiwanese Elementary. *Educational Technology & Society*, *15*(2), 328-340.

41. Chang, I. H., & Wu, Y. C. (2008). A Study of the Relationship Between Principals' Technology Leadership and Teachers' Teaching Efficiency. *Journal of Educational Research and Development*, *4*(1), 171-194.

42. Chantathai, P., Tesaputa, K., & Somprach, K. (2015). Development of effective teacher program: Teamwork building program for Thailand's municipal schools. *International Education Studies*, *8*(9). https://doi.org/10.5539/ies.v8n9p138

43. Choudhury, W. S., & Collins, D. (2021). *Leadership in Times of Uncertainty* [Master's thesis].

44. Collie, R. J., & Martin, A. J. (2016). Adaptability: An Important Capacity for Effective Teachers. *Educational Practice and Theory*, *38*(1), 27-39. https://doi.org/10.7459/ept/38.1.03

45. Common Sense Media White Paper. (2011, March). *Digital Literacy and Citizenship in the 21st Century: Educating, Empowering and Protecting America's Kids*. Common Sense Media White Paper.

46. Connelly, L. M. (2016, November 1). *Trustworthiness in qualitative research*. Free News, Magazines, Newspapers, Journals, Reference Articles and Classic Books - Free Online Library. https://www.thefreelibrary.com/Trustworthiness+in+qualitative+research.-a0476729520

47. Cooper, J. F., & Nirenburg, J. (2004). Leadership Effectiveness. *Encyclopedia of Leadership*, 450-457. https://doi.org/10.4135/9781412952392.n197

48. CORNO, L. (2008). On teaching adaptively. *Educational Psychologist*, *43*(3), 161-173. https://doi.org/10.1080/00461520802178466

49. Costello, J., Clarke, C., Gravely, G., D'Agostino-Rose, D., & Puopolo, R. (2011). Working together to build a respectful workplace: Transforming OR culture. *AORN Journal*, *93*(1), 115-126. https://doi.org/10.1016/j.aorn.2010.05.030

50. Courville, K. (2011). *Educational Technology: Effective Leaderhip and Current Initiatives* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

51. Cowan, D. F., Joyner, S. L., & Beckwith, S. B. (2012). *Getting serious about the system: A Fieldbook for district and school leaders*. Corwin Press.

52. Cox, J. (2013). Tenured teachers & Technology integration in the classroom. *Contemporary Issues in Education Research (CIER)*, *6*(2), 209. https://doi.org/10.19030/cier.v6i2.7730

53. Crawshaw, P., & Bunton, R. (2009). Logics of practice in the 'risk environment'. *Health, Risk & Society*, *11*(3), 269-282. https://doi.org/10.1080/13698570902906447

54. Creighton, T. (2003). *The principal as technology leader*. Corwin Press.

55. Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

56. Creswell, J. W., & Clark, V. L. (2011). *Designing and conducting mixed methods research*. SAGE.

57. Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications.

58. D' Auria, G., & De Smet, A. (2020, March 16). *Leadership in a crisis: Responding to the coronavirus outbreak and future challenges*. McKinsey & Company. https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/leadership-in-a-crisis-responding-to-the-coronavirus-outbreak-and-future-challenges

59. Davis, J. (2020). *The Moderating Effect of Leadership Adaptability on the Relationship between Employee Adaptability and Job Performance* [Master's thesis]. DOI: https://doi.org/10.31979/etd.j7qp-j5jj

60. De Houwer, J., Barnes-Holmes, D., & Moors, A. (2013). What is learning? On the nature and merits of a functional definition of learning. *Psychonomic Bulletin & Review*, *20*(4), 631-642. https://doi.org/10.3758/s13423-013-0386-3

61. De Lacierda, T. M. (2015). *Understanding Leadership Effectiveness in Organizational Settings: An Integrative Approach* [Doctoral dissertation]. DOI: 10.13140/RG.2.1.2870.1289

62. Deal, J. J., Leslie, J., Dalton, M., & Ernst, C. (2003). Cultural adaptability and leading across cultures. *Advances in Global Leadership*, 149-166. https://doi.org/10.1016/s1535-1203(02)03008-3

63. Deal, J. J., & Prince, D. W. (2004). Developing Cultural Adaptability: How to Work Across Differences. *Centre for Creative Leadership*.

64. Deming, D. J. (2015). The growing importance of social skills in the labor market. *NBER Working Paper Series, No. 21473*.

65. Denecker, C. (2019). School principals' work stress in an era of new education governance. *Swiss Journal of Sociology*, *45*(3), 447-466. https://doi.org/10.2478/sjs-2019-0021

66. Department of Education. (2020). *National Adoption and Implementation of Philippine Professional Standards for School Heads (PPSSH* (DepEd Order No. 24, s. 2020).

67. *DepEd Child Protection Policy* (DepEd Order No. 40, s. 2012). (2012). Department of Education.

68. Dewett, T. (2007). Linking intrinsic motivation, risk taking, and employee creativity in an R&D environment. *R&D Management*, *37*(3), 197-208. https://doi.org/10.1111/j.1467-9310.2007.00469.x

69. Dexter, S. (2011). School technology leadership: Artifacts in systems of practice. *Journal of School Leadership*, *21*(2), 166-189. https://doi.org/10.1177/105268461102100202

70. *Dissemination of Republic Act No. 11206* (DepEd Memorandum No. 028, s, 2019). (2019). Department of Education.

71. Doğan, İ. (2018). Examination of the technology leadership self-efficacy perceptions of educational managers in terms of the self-efficacy perceptions of information technologies (Malatya province case). *Participatory Educational Research*, *5*(2), 51-66. https://doi.org/10.17275/per.18.9.5.2

72. Driscoll, M. (2000). *Psychology of Learning for Instruction*. Needham Heights, MA, Allyn & Bacon.

73. Dumont, H., Istance, D., & Benavides, F. (2010). *Nature of Learning: Using Research to Inspire Practice*. OECD. www.oecd.org/edu/learningenvironments

74. Dwangu, A. M., & Mahlangu, V. P. (2021). Accountability in the financial management practices of school principals. *International Journal of Educational Management*, *35*(7), 1504-1524. https://doi.org/10.1108/ijem-06-2021-0243

75. Edwards II, L. R. (2020). *How Principals Learn to Be Technology Leaders: A Critical Incident Qualitative Study* [Doctoral dissertation]. DOI: 10.25777/z5ej-ck26

76. Ejionueme, L. K. (2010). *Management of student personnel services in federal and state universities* [Unpublished doctoral dissertation]. University of Nigeria.

77. Elomaa, M., Eskelä-Haapanen, S., Pakarinen, E., Halttunen, L., & Lerkkanen, M. (2021). Work-related stress of elementary school principals in Finland: Coping strategies and support. *Educational Management Administration & Leadership*, 174114322110103. https://doi.org/10.1177/17411432211010317

78. Emilie, S. A. (2011). Eco-School handbook: Striving for sustainability in Seychelles schools. Ministry of Education. An investigation of stakeholder participation and learning in two schools within the Seychelles Eco-School programme.

79. Emily, C. (2014). *Challenges Facing Principals on Their Roles as Human Resource Managers in Secondary Schools in Nandi County, Kenya* [Master's thesis].

80. Emily, C. (2015). The Role of School Principals as Human Resource Managers in Secondary Schools in Nandi County, Kenya. *Global Journal of Human Resource Management*.

81. Epstein, J. L. (2008). *Improving Family and Community Involvement in Secondary Schools* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

82. Espinosa, F. M. (2017). Financial Management Practices of School Heads: Teachers' Perspectives. *Skyline Business Journal*, *13*(1).

83. Feyisa, D., Ferede, B., & Amsale, F. (2016). Principals perceived leadership effectiveness and its relationship with academic achievement among students in secondary school: The ethiopian experience. *Educational Research and Reviews*, *11*(12), 1129-1137. https://doi.org/10.5897/err2015.2617

84. Fiedler, S., & Kieslinger, B. (2006). Adapting to Changing Landscapes in Education (On Microlearning). *Centre for Social Innovation*.

85. Fisher, D. M., & Waller, L. R. (n.d.). The 21st Century Principal: A Study of Technology Leadership and Technology Integration in Texas K-12 School. *The Global E-Learning Journal, 2*(4), 1-43.

86. *Flexibility and adaptability - HeartlandWeb2Curriculum*. (n.d.). Google Sites. https://sites.google.com/a/aea11.k12.ia.us/heartlandweb2curriculum/flexability-and-adaptability

87. Fowler, T. L. (2013). *Development and Validation of a Scale to Measure an Adaptive Culture Profile Using Student Affairs Divisions in Higher Education* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

88. Francisco, C. D., & Nuqui, A. V. (2020). Emergence of a Situational Leadership During COVID - 19 Pandemic Called New Normal Leadership. *International Journal of Academic Multidisciplinary Research*, *4*(10), 15-19. https://files.eric.ed.gov/fulltext/ED608560.pdf

89. *Future of Work and Skill*. (2017). Organisation for Economic Co-operation and Development (OECD).

90. *Governance of Basic Education Act of 2001* (RA No. 9155). (2001).

91. *Governance of Basic Education Act of 2001* (Republic Act No. 9155). (2001).

92. Gratton, L. (2016). Rethinking the Manager's Role. *MIT Sloan Management Review*, *58*(1), 24-27.

93. Greed, B. (2009). Introduction: Understanding and Researching Professional Practice. In *Understanding and Researching Professional Practice* (pp. 1-17). Sense Publishers. DOI:10.1163/9789087907327_002

94. Grey - Bowen, J. E. (2010). *A Study of Technology Leadership Among Elementary Public School Principals in Miami - Dade County* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

95. Grieser, R. (2020, March 27). *The importance of visionary leadership*. ACHIEVE Centre for Leadership. https://ca.achievecentre.com/blog/importance-visionary-leadership/

96. *Guidelines for Building Partnerships for the K to 12 Basic Education Program* (DepEd Order No. 50, s. 2015). (2015). Department of Education.

97. Hacıfazlıoğlu, O., Karadeniz, S., & Dalgıç, G. (2011). Validity and Reliability Study of Technological Leadership Self-Efficacy Scale for School Administrators. *Educational Administration: Theory and Practice*, *17*(2), 145-166.

98. Hallinger, P., Wang, W., & Chen, C. (2013). Assessing the measurement properties of the principal instructional management rating scale. *Educational Administration Quarterly*, *49*(2), 272-309. https://doi.org/10.1177/0013161x12468149

99. Hallinger, P., & Wang, W. (2015). Assessing instructional leadership with the principal instructional management rating scale. https://doi.org/10.1007/978-3-319-15533-3

100. Hamadat, M. (2008). Organizational Behavior & Future Challenges in Educational Institutions. *Dar Al Hamad for Publication & Distribution*.

101. Hargreaves, A., & Fullan, M. (2020). Professional capital after the pandemic: revisiting and revising classic understandings of teachers' work. *Journal of Professional Capital and Community*, *5*(3/4), 327-336. https://doi.org/10.1108/JPCC-06-2020-0039

102. Hargreaves, A., Halász, G., & Pont, B. (2007). *School leadership for systemic improvement in Finland: A case study report for the OECD activity Improving school leadership*. OECD Report.

103. Harris, A., & Jones, M. (2020). COVID 19 – school leadership in disruptive times. *School Leadership & Management*, *40*(4), 243-247. https://doi.org/10.1080/13632434.2020.1811479

104. Harris, S. (2013). *Bravo teacher: Building relationships with actions that value others* (2nd ed.). Routledge.

105. Harvey, J. (2013). *The School Principal as Leader: Guiding Schools to Better Teaching and Learning*. Wallace Foundation.

106. Hayes, S. D., Flowers, J., & Williams, S. M. (2021). "Constant communication": Rural principals' leadership practices during a global pandemic. *Frontiers in Education*, *5*. https://doi.org/10.3389/feduc.2020.618067

107. Health Advocate. (2009). *Stress in the Workplace: Meeting the Challenge*. Health Advocate, Inc. HealthAdvocate.com

108. Heick, T. (2018, December). *The definition of digital citizenship*. TeachThought. https://www.teachthought.com/the-future-of-learning/the-definition-of-digital-citzenship/

109. Heifetz, R. A., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership: Tools and tactics for changing your organization and the world*. Harvard Business Press.

110. Heifetz, R. A., & Linksy, M. (2004). When leadership spells danger. Leading meaningful change in education takes courage, commitment, and political savvy. Educational Leadership. *Educational Leadership*, *61*(7), 33-37.

111. Hernandez, j. (2019). *Going against the Grain: Reimagining the Role of High School Principals and Principal Supervisor as Adaptive Leaders* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

112. Holtkamp, M. (2014). Leadership skills and the role of adaptability and creativity in effective leadership: A literature review geared toward an integrative model. *3rd IBA Bachelor Thesis Conference*.

113. Honingh, M., & Hooge, E. (2013). The effect of school-leader support and participation in decision making on teacher collaboration in Dutch primary and secondary schools. *Educational Management Administration & Leadership*, *42*(1), 75-98. https://doi.org/10.1177/1741143213499256

114. Howitt, A. M., & Leonard, H. B. (2009). *Managing crises: Responses to large-scale emergencies*. CQ Press.

115. Huang, J. L., Ryan, A. M., Zabel, K. L., & Palmer, A. (2014). Personality and adaptive performance at work: A meta-analytic investigation. *Journal of Applied Psychology*, *99*(1), 162-179. https://doi.org/10.1037/a0034285

116. Hughes, J. (2005). The role of teacher knowledge and learning experiences in forming technology-integrated pedagogy. *Journal of Technology and Teacher Education*.

117. Hughes, J., & Burke, A. (2014). *The digital principal: How to encourage a technology-rich learning environment that meets the needs of teachers and students*. Pembroke Publishers.

118. Hyllengren, P. (2017). Military leaders' adaptability in unexpected situations. *Military Psychology*, *29*(4), 245-259. https://doi.org/10.1037/mil0000183

119. Ibukun, W. O., Oyewole, B. K., & Abe, T. O. (2011). Personality Characteristics and Principal Leadership Effectiveness in Ekiti State, Nigeria. *International Journal of Leadership Studies*, *6*(2), 247-262.

120. *The Importance of Adapting to Others: Interpersonal Theory as a Means to Examine Interpersonal Adaptability at Work* [Doctoral dissertation]. (2014).

121. Instructional program. (2010). In *TheFreeDictionary.com*. The Gale Group. https://encyclopedia2.thefreedictionary.com/Instructional+Program

122. *Instructional program*. (n.d.). TheFreeDictionary.com. https://encyclopedia2.thefreedictionary.com/Instructional+Program

123. Iroegbu, E. E. (2018). Student Personnel Administration in Higher Education: Implication for Repositioning Tertiary Education in Nigeria. *School Environment in Africa and Asia Pacific*, ISBN: 978-1-5462-5799-8 (sc). ISBN: 978-1-5462-5798-1.

124. Isman, A., & Gungoren, O. C. (2014). Digital Citizenship. *The Turkish Online Journal of Educational Technology*, *13*(1), 73-77.

125. *ISTE standards: Education leaders*. (2009). We are ISTE | ISTE. https://www.iste.org/standards/iste-standards/standards-for-administrators

126. Itishree, I. G., & Pradhan, R. K. (2014). Human Resource Flexibility and Organizational Effectiveness: Role of Organizational Citizenship Behaviour and Employee Intent to Stay. *International Journal of Business and Management Invention*, *3*(11), 43-51.

127. Jeanne Ho, J., & Tay, L. Y. (2020). School administrators' ability to use technology, teachers' ability to use it in the classroom, and students' development as future-ready learners. *Jeanne Ho and Lee Yong Tay*, *48*(2), 49-55.

128. Kafa, A., & Pashiardis, P. (2020). Coping With the Global Pandemic COVID-19 Through the Lenses of the Cyprus Education System. *International Studies in Educational Administration*, *48*, 42-48.

129. Kafa, A., & Pashiardis, P. (2020). Coping With the Global Pandemic COVID-19 Through the Lenses of the Cyprus Education System. *Journal of the Commonwealth Council for Educational Administration & Management*, *48*(2), 42-48.

130. Kaiser, R. B., Lindberg, J. T., & Craig, S. B. (2007). Assessing the flexibility of managers: A comparison of methods. *International Journal of Selection and Assessment*, *15*, 40-45.

131. Kalla, S. (2011, June 16). *A correlational study tries to find a relationship between variables*. Explorable - Think Outside The Box - Research, Experiments, Psychology, Self-Help. https://explorable.com/correlational-study

132. Karwan, D. H., Hariri, h., & Ridwan, r. (2021). Visionary Leadership: What, Why, and How. *Proceedings of the 2nd International Conference on Progressive Education*. DOI:10.4108/eai.16-10-2020.2305217

133. Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, *30*(7), 865-878. https://doi.org/10.1016/j.cpr.2010.03.001

134. Kelly, L. M., & Cordeiro, M. (2020). Three principles of pragmatism for research on organizational processes. *Methodological Innovations*, *13*(2), 205979912093724. https://doi.org/10.1177/2059799120937242

135. Kempa, R., Ulorlo, M., & Hendrik Wenno, I. (2017). Effectiveness leadership of principal. *International Journal of Evaluation and Research in Education (IJERE)*, *6*(4), 306. https://doi.org/10.11591/ijere.v6i4.10774

136. Kladifko, R. E. (2013). Practical School Community Partnerships Leading to Successful Educational Leaders. Educational Leadership and Administration: Teaching and Program Development. *Teaching and Program Development Volume*, *24*, 54-61.

137. Kukreja, S. (2020, November 29). *Financial management - Meaning, objectives and functions - Management study HQ*. Management Study HQ. https://www.managementstudyhq.com/financial-management-meaning-objectives-functions.html

138. Kukreja, S. (2020, November 29). *Financial management - Meaning, objectives and functions - Management study HQ*. Management Study HQ. https://www.managementstudyhq.com/financial-management-meaning-objectives-functions.html

139. Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology*, *105*(3), 805-820. https://doi.org/10.1037/a0032583

140. Lama, H. A. (2015). School Performance. *Propósitos y Representaciones*, *3*(1), 313-386. http:// dx.doi.org/10.20511/pyr2015.v3n1.74

141. Langley, A., Rodriguez, A., & Santiago, C. (2012). Improving implementation of mental health services for trauma in multicultural elementary schools: Stakeholder perspectives on parent and educator engagement. *PsycEXTRA Dataset*. https://doi.org/10.1037/e533652013-352

142. *The Learning Action Cell as a K TO 12 Basic Education Program School-Based Continuing Professional Development Strategy for the Improvement of Teaching and Learning* (DepEd Order No. 35, s. 2016). (2016).

143. Leithwood, K., Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences learning*. Wallace Foundation.

144. Lemoine, P. A., McCormack, T. J., & Richardson, M. D. (2014). From Managerial to Instructional Leadership: Barriers Principals Must Overcome. *New Wave Educational Research & Development*, *17*(1), 17-30.

145. Leu, E. (2005). *The role of teachers, schools and communities in quality education: A review of literature*.

146. Ling, H., Chang, J., Hsieh, S. H., Lee, C., & Liao, M. (2011). Leadership behavior and subordinate effectiveness of Chinese hospitality: Mediating process of loyalty. *African Journal of Business Management*, *5*(19), 9340-9347. https://doi.org/11.5897/AJBM11.1035

147. Lunenburg, F. (2010). he Principal and the School: What Do Principals Do? *National Forum of Educational Administration and Supervision Journal*, 1-13.

148. Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, *12*(4), 857-885. https://doi.org/10.1017/s0954579400004156

149. Luthra, A., & Dahiya, R. (2015). Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication. *International Journal of Management & Business Studies*, *5*(3), 43-48.

150. Luthra, A., & Dahiya, R. (2015). Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication. *International Journal of Management & Business Studies*, *5*(3), 43-48.

151. Magruk, A. (2021). Analysis of uncertainties and levels of foreknowledge in relation to major features of emerging technologies—The context of foresight research for the fourth Industrial Revolution. *Sustainability*, *13*(17), 9890. https://doi.org/10.3390/su13179890

152. Mahfouz, J. (2018). Principals and stress: Few coping strategies for abundant stressors. *Educational Management Administration & Leadership*, *48*(3), 440-458. https://doi.org/10.1177/1741143218817562

153. Malfatti, G. (2017). Of Chalk and Chai: Teach Abroad Experiences that Enhance Cultural Adaptability of Pre-Service Teachers. In *Handbook of Research on Efficacy and Implementation of Study Abroad Programs for P-12 Teachers*. IGI Global.

154. Malunda, P., David, O. J., Musaazi, J. C., & Oonyu, J. (2016). Instructional Supervision and the Pedagogical Practices of Secondary School Teachers in Uganda. *Journal of Education and Practice*, *7*(30), 177-187.

155. Manna, P. (2015). *Developing excellent school principals to advance teaching and learning: Considerations for state policy*. Wallace Foundation. https://www.wallacefoundation.org/knowledge-center/pages/developing-excellent-school-principals.aspx

156. Mansfield, C. F., Beltman, S., Price, A., & McConney, A. (2012). “Don’t sweat the small stuff:” understanding teacher resilience at the chalkface. *Teaching and Teacher Education*, *28*(3), 357-367. https://doi.org/10.1016/j.tate.2011.11.001

157. Mantick, K. (2019, February 21). *Digital-Age Learning Culture: Rethinking Traditional Classrooms*. SolidProfessor. https://www.solidprofessor.com/blog/digital-age-learning-culture-rethinking-the-traditional-classroom/

158. Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. (2012). Adaptability: Conceptual and empirical perspectives on responses to change, novelty and uncertainty. *Australian Journal of Guidance and Counselling*, *22*(1), 58-81. https://doi.org/10.1017/jgc.2012.8

159. Martin, A. J., Nejad, H., Colmar, S., Liem, G. A., & Collie, R. J. (2015). The role of adaptability in promoting control and reducing failure dynamics: A mediation model. *Learning and Individual Differences*, *38*, 36-43. https://doi.org/10.1016/j.lindif.2015.02.004

160. Mathis, D. E. (2014). *School Leadership: Implementation of Effective Leadership Practices by Four Successful High School Principals* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

161. Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. *In A. Tashakkori, & C. Teddlie, Handbook of mixed methods in social & behavioral research*, 51-89.

162. McConnell, C. R. (2004). Interpersonal skills. What they are, how to improve them, and how to apply them. *The Health Care Manager*, *23*(2), 177-187. https://doi.org/10.1097/00126450-200404000-00012

163. Mendell, M. J., & Heath, G. (2004). A summary of scientific findings on adverse effects of indoor environments on students’ health, academic performance and attendance. http://www.iehinc.com/pdf/Effects%20on%Students.pdf

164. Mendels, P. (2012). *the Effective Principal: Five Pivotal Practices That Shape Leadership*. The Wallace Foundation.

165. Metcalf, W. (2012). *K-12 Principals' Perceptions of Their Technology Leadership Preparedness* [Doctoral dissertation]. https://digitalcommons.georgiasouthern.edu/etd/400

166. Metcalf, W. B. (2012). *K-12 Principals' Perceptions of Their Technology Leadership Preparedness* [Doctoral dissertation]. https://digitalcommons.georgiasouthern.edu/etd/400

167. Michie, S. (2002). Causes and Management of Stress at Work. *Occup Environ Med*, *59*, 67-72.

168. Morehead, W. R., Schuler, J. R., Yokley, J. L., & Janis, L. (2015). *A problem-based learning project investigating Missouri secondary administrator preparedness for technology leadership and management* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

169. Morrison, B. (2006, October 31). 6 Strategies of Principals to Become Technology Leaders. . *EdTech Focus on K - 12*.

170. Mossberger, K., Professor of Political Science Caroline J Tolbert, Tolbert, C. J., & McNeal, R. S. (2008). *Digital citizenship: The internet, Society, and Participation*. MIT Press.

171. Mumford, M. (2003). Where have we been, where are we going? Taking stock in creativity research. *Creativity Research Journal*, *15*(2), 107-120. https://doi.org/10.1207/s15326934crj152&3_01

172. Mumford, M. D. (2012). Leadership of Creativity: Entity-Based, Relational, and Complexity Perspectives. In *Handbook of Organizational cCeativity* (pp. 457-479). Academic Press.

173. Mutiara, C. A., Sulton, D., & Irawan, S. (2017). The Role of the Principal in Improving the Quality of Education (Case Study at Baitul Jannah Islamic

Integrated Elementary School Bandar Lampung). *Journal Educational Quality Management*, *5*(1), 1-9.

174. *National Adoption and Implementation of the Philippine Professional Standards for Teachers* (DepEd Order No. 42, s. 2017). (2017).

175. *National ethical guidelines for health and health-related research, 2017*. (2018). Philippine Health Research Ethics Board.

176. NG, T. W. (2015). Embedding employees early on: The importance of workplace respect. *Personnel Psychology*, *69*(3), 599-633. https://doi.org/10.1111/peps.12117

177. Northouse, P. G. (2015). *Leadership: Theory and practice*. SAGE Publications.

178. Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, *16*, 1-13. https://doi.org/10.1177/1609406917733847

179. Oliver, T., & Lievens, F. (2014). *Conceptualizing and assessing interpersonal adaptability: Towards a functional framework* [Doctoral dissertation].

180. Onyekwere, M., & Ubong, J. (2019). Principals' Role On The Effective Management Of Educational Facilities In Public Senior Secondary Schools in East Senatorial District Of Rivers State. *International Journal of Innovative Social & Science Education Research*, *7*(2), 73-86. www.seahipaj.org ISSN: 2360-8978

181. Organisation for Economic Co-operation and Development (OECD). (2017). *Future of Work and Skills*.

182. Organisation for Economic Co-operation and Development (OECD). (2020). *TALIS 2018 results (Volume II) teachers and school leaders as valued professionals: Teachers and school leaders as valued professionals*. OECD Publishing.

183. Orkibi, H. (2021). Creative adaptability: Conceptual framework, measurement, and outcomes in times of crisis. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.588172

184. Osman, F. B. (2014). High school administrators' perceptions of their technology leadership preparedness. *Educational Research and Reviews*, *9*(14), 441-446. https://doi.org/10.5897/err2014.1858

185. Panigrahi, A. (2016). Managing Stress at Workplace. *Journal of Management Research and Analysis*, *3*(4), 154-160. DOI: 10.18231/2394-2770.2016.0001

186. Parsons, S., Williams, B., Burrowbridge, S., & Mauk, G. (2012). The case for adaptability as an aspect of reading teacher effectiveness. *Voices from the Middle*, *19*(1), 19-23.

187. Patacsil, F. F., & Tablatin, C. L. (2017). Exploring the importance of soft and hard skills as perceived by IT internship students and industry: A gap analysis. *Journal of Technology and Science Education*. https://doi.org/10.3926/jotse.271

188. Peterson, C., Seligman, M. E., & Fox Leadership Professor of Psychology Martin E P Seligman. (2004). *Character strengths and virtues: A handbook and classification*. Oxford University Press.

189. Piórkowska, K. (2016). Behavioural strategy: Adaptability context. *Management*, *20*(1), 256-276. https://doi.org/10.1515/manment-2015-0038

190. PLOYHART, R., & BLIESE, P. (2006). Individual adaptability (I-ADAPT) theory: Conceptualizing the antecedents, consequences, and measurement of individual differences in adaptability. *Understanding Adaptability: A Prerequisite for Effective Performance within Complex Environments*, 3-39. https://doi.org/10.1016/s1479-3601(05)06001-7

191. *Policy Guidelines on the K to 12 Basic Education Program* (DepEd Order No. 21, s. 2019). (2019). Department of Education.

192. Polit, D. F., & Beck, C. T. (n.d.). *Essentials of Nursing Research: Appraising Evidence for Nursing Practice* (8th ed.). Lippincott Williams & Wilkins.

193. Pont, B., Nusche, d., & Moorman, h. (2008). *Improving School Leadership* (Volume 1). Organisation for Economic Co-Operation (OECD) AND DEVELOPMENT.

194. Powers, C. L. (n.d.). *The Importance of Adapting to Others: Interpersonal Theory as Means to Examine Interpersonal Adaptability at Work* [Doctoral dissertation].

195. Prachi, J. (2018). *Personnel management articles*. Management Study Guide - Courses for Students, Professionals & Faculty Members. https://www.managementstudyguide.com/personnel-management-articles.htm

196. Prestiadi, D., Zulkarnain, W., & Bambang Sumarsono, R. (2019). Visionary leadership in total quality management: Efforts to improve the quality of education in the Industrial Revolution 4.0. *Proceedings of the 4th International Conference on Education and Management (COEMA 2019)*. https://doi.org/10.2991/coema-19.2019.40

197. Preston, J., & Barnes, K. E. (2018). Successful leadership in rural schools: Cultivating collaboration. *The Rural Educator*, *38*(1). https://doi.org/10.35608/ruraled.v38i1.231

198. Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, *85*(4), 612-624. https://doi.org/10.1037/0021-9010.85.4.612

199. Qvortrup, A., Wiberg, M., Hansbol, M., & Christensen, G. (2016). *On the definition of learning*. University Press of Southern Denmark.

200. Rajbhandari, M. M. (2014). *School leadership en-route to grand LEAP: Case studies from Nepal & Finland*. Tampere University Press.

201. Raman, A., Thannimalai, R., & Ismail, S. N. (2019). Principals' Technology Leadership and its Effect on Teachers' Technology Educational Policy Analysis

and Strategic Research. *International Journal of Instruction*, *12*(4), 423-442. https://doi.org/10.29333/iji.2019.12428a

202. Raman, & Thannimalai, R. (2019). Importance of Technology Leadership for Technology Integration: Gender and Professional Development Perspective. *SAGE*, 1-13. https://doi.org/10.1177%2F2158244019893707

203. Reeves, M., & Deimler, M. (2011, July/August). Adaptability: The New Competitive Advantage. *Harvard Business Review*.

204. Reigeluth, C. (2008). *Chaos theory and the sciences of complexity: Foundations for transforming education* [Doctoral dissertation]. file:///C:/Users/jihan/Downloads/Chaos_Theory_and_the_Sciences_of_Complexity_Founda.pdf

205. Rhodes, C. M. (2008). Leadership, Talent Identification and Development. *Educational Management Administration Leadership*, *36*, 311-335.

206. Ribble, M., & Bailey, G. D. (2007). *Digital citizenship in Schools*. International Society for Technology in Education.

207. Richardson, J. W., Bathon, J., Flora, K. L., & Lewis, W. D. (2012). NETS•A scholarship. *Journal of Research on Technology in Education*, *45*(2), 131-151. https://doi.org/10.1080/15391523.2012.10782600

208. Robbins, P., & Alvy, H. B. (2014). *The principal's companion: Strategies to lead schools for student and teacher success*. Corwin.

209. Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The Leadership Quarterly*, *17*(6), 617-633. https://doi.org/10.1016/j.leaqua.2006.10.005

210. Sarafidou, J., & Xafakos, E. (2015). Transformational leadership and principals' Innovativeness. *Advances in Educational Marketing, Administration, and Leadership*, 324-348. https://doi.org/10.4018/978-1-4666-6591-0.ch015

211. Schiller, J. (2003). Working with ICT. *Journal of Educational Administration*, *41*(2), 171-185. https://doi.org/10.1108/09578230310464675

212. *School community definition*. (2019, January 29). The Glossary of Education Reform. https://www.edglossary.org/school-community/

213. *The school principal as leader: Guiding schools to better teaching and learning*. (2011). Wallace Foundation. www.wallacefoundation.org

214. Scoones, I. (2019). *What is Uncertainty and Why Does it Matter?* (STEPS Working Paper 105) STEPS Centre.

215. Scott, D., & Usher, R. (2002). *Understanding Educational Research*. Taylor & Francis e-Library.

216. Scott, G. (2005). *Educator perceptions of principal technology leadership competencies* [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

217. Serhan, D. (2007). School Principal's Attitudes Towards the Use of Technology: United Arab Emirates Technology Workshop. *Turkish Online Journal of Educational Technology*, *6*(2).

218. Sharma, S., Yusoff, M., Kannan, S., & Baba, S. B. (2011). Concerns of teachers and principals on instructional supervision in three Asian countries. *International Journal of Social Science and Humanity*, 214-217. https://doi.org/10.7763/ijssh.2011.v1.37

219. Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*(2), 63-75. https://doi.org/10.3233/efi-2004-22201

220. Shkurina, E. (2018, December 20). Financial Management Practices of the School Principal. https://blog.youragora.com/author/elizaveta+shkurina

221. Shorten, A., & Smith, J. (2017). Mixed methods research: expanding the evidence base. *Evid Based Nurs*, *20*(3), 74-75. http://dx.doi.org/10.1136/eb-2017-102699

222. Shuttleworth, M. (2008, September 26). *Descriptive research design*. Explorable - Think Outside The Box - Research, Experiments, Psychology, Self-Help. https://explorable.com/descriptive-research-design

223. Singh, P. (2013). Influence of leaders' Intrapersonal competencies on employee job satisfaction. *International Business & Economics Research Journal (IBER)*, *12*(10), 1289. https://doi.org/10.19030/iber.v12i10.8137

224. Sinkovics, R. R., Penz, E., & Ghauri, P. N. (2008). Enhancing the trustworthiness of qualitative research in international business. *Management International Review*, *48*(6), 689-714. https://doi.org/10.1007/s11575-008-0103-z

225. Skagert, K., Dellve, L., Eklöf, M., Pousette, A., & Ahlborg, G. (2008). Leaders' strategies for dealing with own and their subordinates' stress in public human service organisations. *Applied Ergonomics*, *39*(6), 803-811. https://doi.org/10.1016/j.apergo.2007.10.006

226. *Skills theory*. (2020, December 18). David Burkus. https://davidburkus.com/2010/02/skills-theory/

227. Skinner, T. H. (2003). *The role of the school principal in contemporary society: A rural Manitoba perspective*. National Library of Canada = Bibliothèque nationale du Canada.

228. Sogunro, O. A. (2012). Stress in school administration: Coping tips for principals. *Journal of School Leadership*, *22*(3), 664-700. https://doi.org/10.1177/105268461202200309

229. Sothy, C. (2019). The effectiveness of principal in managing human resource in private secondary schools in Phnom Penh, Cambodia. *International Journal of Scientific and Research Publications (IJSRP)*, *9*(6), p9061. https://doi.org/10.29322/ijsrp.9.06.2019.p9061

230. Spiegel, J. S. (2012). Open-mindedness and intellectual humility. *Theory and Research in Education*, *10*(1), 27-38. https://doi.org/10.1177/1477878512437472

231. Stone, H., Parker, J. D., & Wood, L. M. (2005). *Report on the Ontario Principals' Council Leadership Study*. Consortium for Research on Emotional Intelligence in Organizations. www.eiconsortium.org

232. Stringer, P., & Hourani, R. B. (2015). Transformation of roles and responsibilities of principals in times of change. *Educational Management Administration & Leadership*, *44*(2), 224-246. https://doi.org/10.1177/1741143214549971

233. Sutton, P. S., & Shouse, A. W. (2016). Building a culture of collaboration in schools. *Phi Delta Kappan*, *97*(7), 69-73. https://doi.org/10.1177/0031721716641653

234. Tadesse, S. (2011). Human Resource Management Practices in Selected Secondary Schools of East Shoa Zone. *EJBE*, *2*(1), 99-146.

235. Tatlah, I. A., Iqbal, M. Z., Amin, M., & Quraishi, U. (2014). Effect of Leadership Behaviour of Principals on Students' Academic Achievement at Secondary Level: A Comparison of the Leaders and Teachers Perceptions. *J. Res. Reflections Educ. (JRRE)*, *8*(1).

236. *Technology Standards for School Administrators (TSSA)*. (2001).

237. Tobin, J. (2014). Management and Leadership Issues for School Building Leaders. *International Journal of Educational Leadership Preparation*, *9*(1).

238. Toma, S. V., Chirita, M., & Sarpe, D. (2012). Risk and Uncertainty. *Procedia Economics and Finance*, *3*, 975 – 980. https://doi.org/ 10.1016/S2212-5671(12)00260-2

239. Torres, R. (2021). Does test-based school accountability have an impact on student achievement and equity in education? *OECD Education Working Papers*. https://doi.org/10.1787/0798600f-en

240. Tucker, J. S., & Gunther, K. M. (2009). The application of a model of adaptive performance to army leader behaviors. *Military Psychology*, *21*(3), 315-333. https://doi.org/10.1080/08995600902914396

241. Ubben, G. C., Hughes, L. W., & Norris, C. J. (2011). *The principal: Creative Leadership for Excellence in Schools* (7th ed.). Prentice Hall.

242. Ubben, G. C., Hughes, L. W., & Norris, C. J. (2011). *The principal: Creative leadership for excellence in schools*. Prentice Hall.

243. Ugur, N. G., & Koc, T. (2019). Principals' ICT Proficiency Level and Tutors' Willingness to Adopt Modern Technological Devices in Teaching in the Volta and Greater Accra Regions, Ghana. *International Journal of Educational Leadership and Management*.

244. Usman, Y. D. (2016). Educational Resources: An Integral Component for Effective School Administration in Nigeria. *Research on Humanities and Social Sciences*, *6*(13), 27-37.

245. Uwazarike, C. N. (2004). Pupils' personnel administration: Issues and concerns for school administrators: The departmental level in Tertiary institutions. *Ibadan*, 189-199.

246. Uğur, N. G., & Koç, T. (2019). Leading and teaching with technology: School principals' perspective. *International Journal of Educational Leadership and Management*, *7*(1), 42. https://doi.org/10.17583/ijelm.2019.3758

247. Veal, A. J., & Ticehurst, B. (2005). *Business research methods: A managerial approach*.

248. Velickovic, S., & Stosic, L. (2016). Preparedness of educators to implement modern information technologies in their work with preschool children. *International Journal of Cognitive Research in Science, Engineering and Education*, *4*(1), 23-30. https://doi.org/10.5937/ijcrsee1601023v

249. Velmurugan, C. (2016). Interpersonal Relationship and Organizational Effectiveness. *International Journal of Business Management and Leadership*, *7*(1), 1-5.

250. Vernooij, R., & Wolfe, R. (2014, April 6). *The Need for Creative Leadership*. THNK. https://www.thnk.org/insights/the-need-for-creative-leadership/

251. Villareal, J. (2019). *Correlation Study Between School Administrators' Technology Leadership Preparation and Technology Integration* [Doctoral dissertation]. https://digitalcommons.csp.edu/cup_commons_grad_edd/285/

252. Wagithunu, M. N., Muthee, J., & Thinguri, R. (2014). A Critical Analysis of School Principals' Competence in Financial Management in Kenya: Accountability in Educational Planning and Management. *Journal of Education and Practice*, *5*(25), 103-107.

253. Wai-ming Tam, F. (2007). Rethinking school and community relations in Hong Kong. *International Journal of Educational Management*, *21*(4), 350-366. https://doi.org/10.1108/09513540710749555

254. Walia, C. (2019). A dynamic definition of creativity. *Creativity Research Journal*, *31*(3), 237-247. https://doi.org/10.1080/10400419.2019.1641787

255. Walker, W., Harremoës, P., Rotmans, J., Van der Sluijs, J., Van Asselt, M., Janssen, P., & Krayer von Krauss, M. (2003). Defining uncertainty: A conceptual basis for uncertainty management in model-based decision support. *Integrated Assessment*, *4*(1), 5-17. https://doi.org/10.1076/iaij.4.1.5.16466

256. Weng, C., & Tang, Y. (2014). The relationship between technology leadership strategies and effectiveness of school administration: An empirical study. *Computers & Education*, *76*, 91-107. https://doi.org/10.1016/j.compedu.2014.03.010

257. Wilhelmson, L. (2006). Transformative learning in joint leadership. *Journal of Workplace Learning*, *18*(7/8), 495-507. https://doi.org/10.1108/13665620610693042

258. Winingsih, L. H., & Sulistiono, A. A. (2020). Factors influencing the principal's leadership and its impact on learning quality and learning outcome. *Journal of Educational and Social Research*, *10*(2), 143. https://doi.org/10.36941/jesr-2020-0034

259. Wise, D. (2015). Emerging Challenges Facing School Principals. National Council of Professors of Educational Administration. *National Council of Professors of Educational Administration*, 103-115. https://files.eric.ed.gov/fulltext/EJ1105451.pdf

260. Yorulmaz, A., & Can, S. (2016). The Technology Leadership Competencies of Elementary and Secondary School Directors. *Educational Policy Analysis and Strategic Research*, *11*(1).

261. Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, *26*(4), 66-85. https://doi.org/10.5465/amp.2012.0088

262. Yukl, G. A. (2013). *Leadership in organizations* (8th ed.). Prentice Hall.

263. Yukl, G., & Mahsud, R. (2010). Why flexible and adaptive leadership is essential. *Consulting Psychology Journal: Practice and Research*, *62*(2), 81-93. https://doi.org/10.1037/a0019835

264. Yusuf, A. (2016). Influence of Principals' Leadership Styles on Students' Academic Achievement in Secondary Schools. *J. Innovative Resource Management - Humanities*.

265. Yusuf, A. (2016). Influence of Principals' Leadership Styles on Students Academic Achievement in Secondary Schools. *J. Innovative Res. Management. Humanities*, *3*(1).

266. Zhong, L. (2017). Indicators of digital leadership in the context of K-12 education. *Journal of Educational Technology Development and Exchange*, *10*(1). https://doi.org/10.18785/jetde.1001.03